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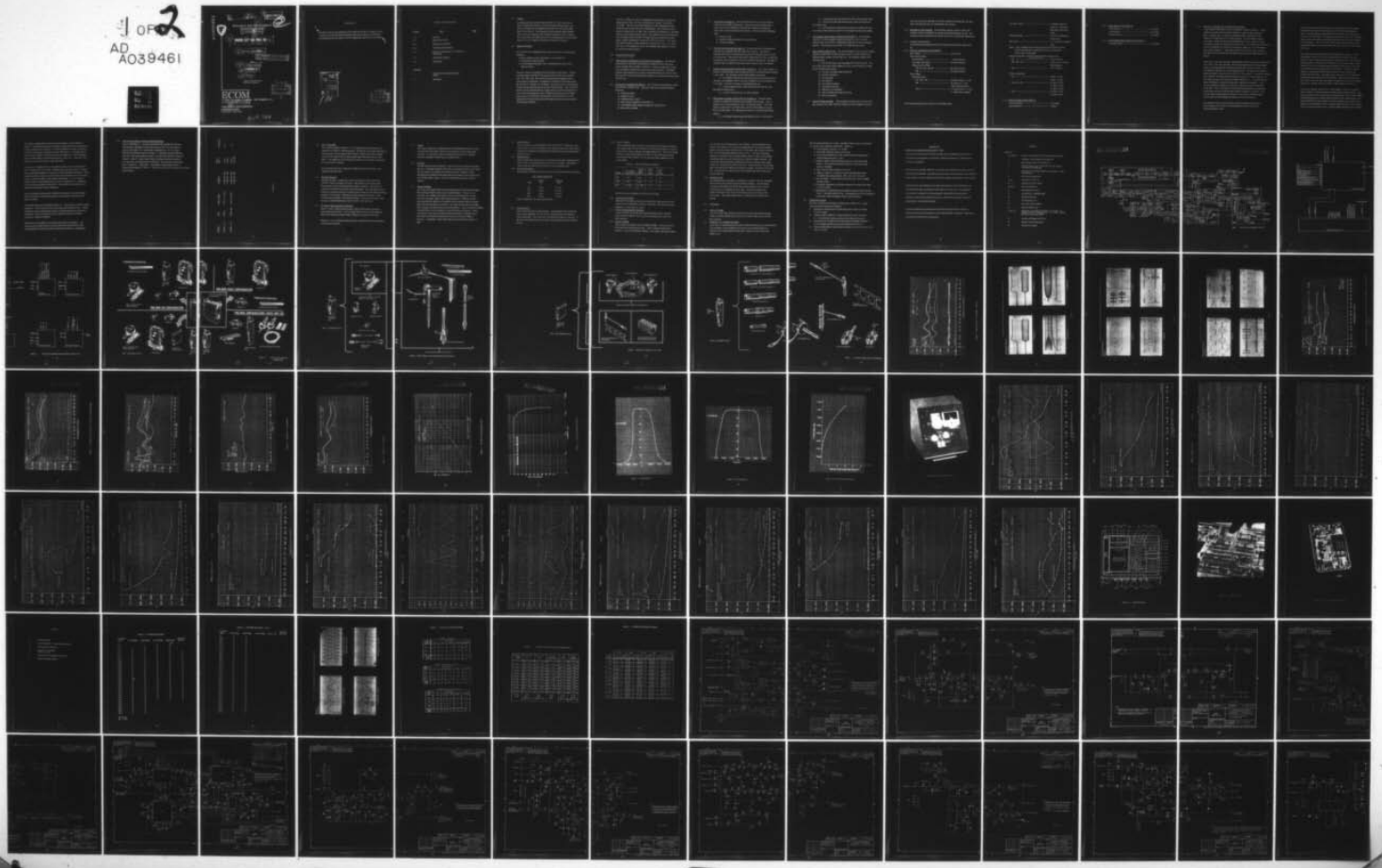

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RESEARCH AND DEVELOPMENT TECHNICAL REPORT

(18) ECOM-Ø319-9

(19)

(6) RADIO SET AN/PRC-7Ø( ).

(9) FINAL REPORT.

COPY AVAILABLE TO DDC DOES NOT PERMIT FULLY LEGIBLE PRODUCTION

BY
(10) C.A. BUCHER

(11) FEBRUARY 1977

(12) 142p.

Approved for public release;
distribution unlimited

ECOM

U.S. ARMY ELECTRONICS COMMAND · FORT MONMOUTH, N.J.

CONTRACT DAABØ7-71-C-Ø319
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CINCINNATI ELECTRONICS CORPORATION
CINCINNATI, OHIO 45241

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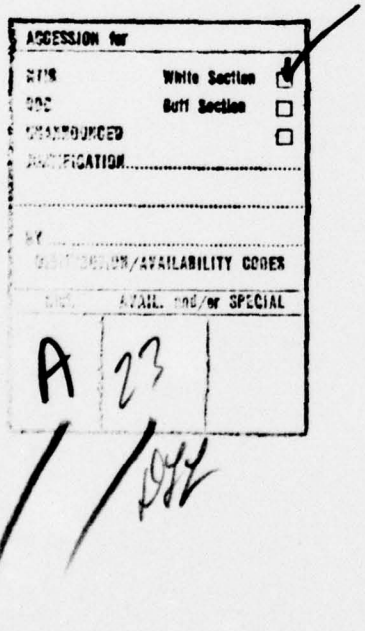
ABSTRACT

This final report on the development of the Radio Set AN/PRC-70 manpack receiver-transmitter is concerned with the technical aspects and problems encountered in the development and test of the 21 (ET/ST) Engineering Test/Service Test Models.



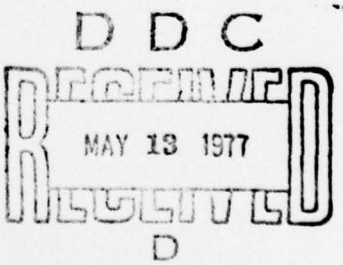


TABLE OF CONTENTS

1.0 Purpose

As authorized under contract number DAAB07-71-C-0319, the purpose of this development has been to provide the design, fabrication, test, and delivery of twenty-one (21) Engineering Test/Service Test models of the Radio Set AN/PRC-70. This equipment provides simplex single sideband (SSB), frequency modulation (FM), amplitude modulation (AME), frequency shift keying (FSK) and continuous wave (CW) communications in the frequency range of 2.0 to 76.0 MHz for operation in a Manpack environment.

2.0 System Description

The AN/PRC-70 is a lightweight multi-mode radio system consisting of the following:

- Basic manpack receiver-transmitter - RT-1133/PRC-70
- Combination Antenna Systems
- Complementary equipment, inter-connecting cables and carrying bags and frames.

The basic receiver-transmitter serves as the heart of the system. Its wide frequency range (2-76 MHz in 100 Hz steps) and its multi mode capability (CW, FSK, SSB, AME, FM) provide full operational compatability with a large number of equipments. In addition the AN/PRC-70 will interface with the AN/GRA-71, AN/GRA-39, AN/GSH-6, AT-784 and secure communications applique equipment both in the HF and VHF frequency range. Two AN/PRC-70 systems may be interconnected by a single cable to provide retransmission of voice on any two frequencies in the 2-76 MHz band (FM from 30 to 76 MHz). The receiver desensitization and transmitter noise performance has been designed to meet the increased demand for high performance in environments of large signal densities.

The basic AN/PRC-70 receiver-transmitter provides reliable reception and transmission of AME, CW, SSB, and FSK from 2-76 MHz, and FM from 30-76 MHz. FM voice is normally adjusted for 50 kHz channelization and a modification kit provides for 25 kHz channelization. The transmitter power output is 30 watts from 2-76 MHz, and is matched to the antenna by a completely automatic static/binary antenna coupler. This automatic coupler frees the user from positional constraints while providing maximum radiated power under widely varying conditions thus increasing combat effectiveness. The coupler has sufficient range to match impedances represented by a 6 ft., 9 ft., and a 15 ft. whip, $\lambda/2$ doublet and a 300 ft. low radiation angle long wire, each in its respective frequency range.

3.0 Components Description

3.1 Basic Receiver-Transmitter RT-1133/PRC-70 (see figure 1). The Receiver-transmitter RT-1133/PRC-70 (referred to hereafter as the RT unit) is the major assembly of the AN/PRC-70 radio set. This unit is housed in a metal case assembly and contains the receive and transmit circuitry. Two finger-operated release latches are provided to attach the battery case to the RT unit. The operator's controls and the various connectors are located on the front panel of the RT unit.

3.2 Accessory Carrying Bag (see figure 2). The Accessory Carrying Bag is a nylon duck bag with a shoulder strap. This bag is used for carrying the following equipment:

(1) Handset H-138B/U
(2) Headset H-251/U
(3) Telegraph Key KY-605/U
(4) Whip Antenna Assembly AS-2974/PRC-70
(5) Low Radiating Angle Antenna Assembly AS-2973/PRC-70
(6) Burst Cable Assembly

3.3 Carrying Kit (see figure 2). The Carrying Kit is used to carry the radio set in the one-man portable configuration. In the two-man load configuration, it is also used to carry additional components (the Ancillary Carrying Bag), of the radio set to the selected site of operation. The kit contains the following items:

(1) Rucksack frame

(2) Packboard plate and shelves for rucksack frame

(3) Packboard webbing

3.4 Two-Man Load Carrying Bags (figure 2). The two-Man load Carrying Bags are used whenever additional operating methods are required. The bags are identified as the Mast Carrying Bag and Ancillary Carrying Bag and are carried by a second man. When the Two-Man Load Carrying Bags are used, an additional carrying kit (1A7) is required to carry the Ancillary Carrying Bag. This bag is a mounted on the carrying kit in the same manner as the Receiver-Transmitter.

3.5 Doublet Antenna Assembly AS-2975/PRC-70 (Figure 4). The Doublet Antenna is a half-wave portable antenna cable of being tuned to any operating frequency between 2 and 30 MHz. The assembly consists of the following components:

(1) Two lengths of antenna wire with frequencies marked on the wires at intervals corresponding to 90% of a quarter wavelength for every half MHz from 2 to 30 MHz. Each wire is wound on a lightweight hand reel.

(2) A balun assembly which couples and matches the feed line to the two balanced antenna wires.

(3) A 40-foot coaxial feed line (or cable assembly).

3.6 Whip Antenna Assembly AS-2974/PRC-70 (see figure 3). The whip antenna consists of a foldable 6-foot antenna and a foldable 9-foot antenna. These 2 antennas may be joined together to form a 15-foot whip antenna. The 6-foot antenna is used in the 4 to 76 MHz range, and the 15-foot antenna is used in the 2 to 30 MHz range. The following accessories are provided with the whip antenna:

(1) An adjustable antenna base used with the 6-foot or 9-foot section.

(2) A rigid antenna base used with the 15-foot during stationary setup.

(3) A halyard assembly with stakes and guy ropes used with the 15-foot antenna setup.

(4) A grounding stake assembly used to ground and stablize the radio set during operation with any antenna in any configuration other than portable.

3.7 Low Radiating Angle Antenna Assembly AS-2973/PRC-70. This assembly consists of a 300-foot length of antenna wire wound on a reel, a 40-foot length of nylon cord wound on a lightweight bobbin with a 6-ounce lead weight attached. This antenna is used in the 6 to 30 MHz frequency range.

3.8 Mast Assembly (Figure 4 & 5). The mast assembly is used to erect the Doublet Antenna (AS-2975/PRC-70) and may also be used to erect the 300-foot Low Radiating Angle Antenna (AS-2973/PRC-70). The assembly consists of the following items:

(1) Two 15-foot masts, each consisting of five 3-foot sections. The two 15-foot masts can be joined together to form a 30-foot mast for erecting the low radiating angle antenna

(2) Two base assemblies with locking pins

(3) Six stake assemblies

(4) Two guy plates

(5) One insulator

(6) One transition adapter

(7) One halyard assembly

(8) Eight guy rope assemblies

(9) Guy rope bobbin assemblies (two each)

(10) Mast Carrying Bag

3.9 Burst CW Cable Assembly. This assembly is located in the Accessory Bag and consists of two cables with their connectors and is designed to adapt the

radio set to Keyer KY-468/GRA-71 (KE-8B), and Recorder Signal Data, RO-291/GSH-6 equipment for burst CW transmission and reception.

3.10 Maintenance Cable Assembly. This assembly consists of adapter cables used by higher category maintenance for testing and troubleshooting the RT unit. The maintenance cable assembly is not used for operator or organizational maintenance.

3.11 Technical Characteristics

The following subparagraphs describe the technical characteristics of the radio set.

3.11.1 Receiver-Transmitter RT-1133/PRC-70

Input Voltage	20 to 32 Vdc
Power Requirements	
Receive Mode	7 watts maximum
Low-power Xmit Mode	50 watts maximum
High-power Xmit Mode	
FSK, CW, FM, and AM	160 watts maximum
SSB	115 watts maximum
Power Output:	
High-power Mode	
CW, FM*, FSK	30 watts average ± 1.5 db
SSB	30 watts pep ± 1.5 db (Peak Envelope Power)
AME	7.5 watts carrier, ± 1.5 db 7.5 watts upper sideband

* FM transmit enabled only in 30.0000 to 75.9999 MHz range.

Low-power Mode ---------- transmitter output reduced 10 ± 1 dB below high power output in all modes

Frequency Range ---------- 2.000 to 75.9999 MHz in 100 Hz steps

Duty Cycle ---------- 9 to 1 receive-to-transmit ratio.

Modes: Upper sideband voice; 2 kHz Tone-keyed CW, FSK burst (Tones 1575 Hz and 2425 Hz); Compatible AM (2.000-75.9999 MHz); FM (30.0000-75.9999 MHz)

Receiver Sensitivity: (RF input levels required to obtain 10 dB $\frac{S+N+D}{N+D}$)

FM ---------- 0.50 μV Typical

SSB, FSK, CW ---------- 0.25 to 0.50 μV (varies with frequency)

AM ---------- 2.0 μV Typical

Receiver Selectivity

FM ---------- 32 kHz @ 6 dB
70 kHz @ 60 dB

SSB, CW, FSK ---------- 2.8 kHz @ 6 dB
4.0 kHz @ 26 dB
6.0 kHz @ 60 dB

AM ---------- 6.0 kHz @ 6 dB
14.0 kHz @ 60 dB

3.11.2 Doublet Antenna AS-2975/PRC-70:

Frequency Range ---------- 2 to 30 MHz

Input Impedance ---------- 72 ohms

3.11 3 Whip Antenna AS-2974/PRC-70:

6-foot Section	4 to 76 MHz
9-foot Section	3 to 76 MHz
15-foot Section	2 to 30 MHz

3.11.4 Low Radiating Angle Antenna AS-2973/PRC-70:

Frequency Range	6 to 30 MHz

4.0 Receiver-Transmitter (RT 1133/PRC-70) Description

A block diagram of the basic receiver-transmitter is shown in Figure 1. Antenna connection is made on the front panel connectors, either the whip connector, BNC, or binding post. An automatic matching network matches the various antennas to 50 ohms with a 1.5:1 VSWR maximum. Once the antenna is tuned, no dc power is drawn by any of the matching network circuits, either in receive or transmit, thereby providing maximum battery life. The matching network has full memory capabilities; even with the set turned off, without the use of conventional servo-driven networks. A radio silence position, termed "Rec Only", removes the network from the signal path, providing optimum reception without the need for tune up.

The receiver is a triple conversion superhetrodyne with the successive IF frequencies of 111.455, 11.455, and .455 MHz. The received signal entering from the antenna coupler, passes through the input filtering and into the upconversion mixer. The input filtering consists of a2 - 76 MHz bandpass filter. The signal is upconverted in the wide dynamic range mixer to a VHF IF of 111.455 MHz. Upconversion methods offer minimum VFO tuning range and maximum rejection of antenna radiation. IF and image responses are rejected by a simple lowpass filter. The selectivity/gain stage is followed by a selective crystal filter, with 32 kHz bandwidth. A FET low noise amplifier provides more gain before mixing down to the second IF of 11.455 MHz. The 11.455 MHz IF provides additional amplification and filtering before being converted to 455 kHz where ultimate selectivity is acquired. AGC circuits control gain throughout the system, each sequenced systematically to provide optimum signal handling and ultimate S/N ratio performance.

The squelch circuitry provides squelch operation completely independent of electromagnetic noise levels, thus eliminating the need for an operator-adjusted threshold control.

The synthesizer generates all necessary injection frequencies for the system, including necessary tones for tone squelch, CW, FSK and coupler network status. The basic injection frequency for the first mixer covers the range of 113.4550 to 187.4549 MHz. This signal is generated by a unique VFO providing signal to noise ratios before unattainable in any but crystal oscillators followed by crystal filters. This VFO is phase locked to the standard by means of two interpolation loops, one for 10 MHz and 1 MHz steps, the other for 100 kHz and lower steps.

The transmitted signal path is shown by the dashed lines in Figure 2. Input audio signals, voice, CW, & FSK are bandlimited, and shaped in the audio amplifier section, before application to the modulator circuits. The FM signal, plain and cypher, is generated at 11.455 MHz, by a voltage controlled crystal oscillator (VCXO), the output of which is amplified, filtered and applied to the mixer which converts the signal to the 111.455 MHz IF. All other transmit signals are generated at 455 kHz where speech processing, filtering and amplification takes place. This signal is then converted to 11.455 MHz where it follows the same path taken by the FM signal. After transition through the tuner in the reverse direction, the signal is amplified in the transmit broadband amplifier to .25 watts, the level of which is held constant by an ALC loop.

In the power amplifier section, the 0.25 watt signal is amplified to a level of either 30 watts or 3 watts equivalent out of the antenna matching network. The power amplifier section is composed of broadband stages, hybrid coupled together eliminating tuning and providing isolation between the two parallel stages. The networks hold power output constant across the frequency range, while VSWR detectors provide control for device protection against any antenna load between a short circuit and an open circuit. Harmonic filters follow the power amplifier.

The antenna matching network uses low loss components in a static/binary T network. The static/binary network principle provides freedom from troublesome electro mechanical servo systems. It provides contiguous coverage, rapid tune up, and full circuit memory requiring no dc power after tune up. A sensing circuit is also provided to monitor the VSWR and actuate an audible "NO TUNE" indication when the VSWR shows a mismatch approximating a ratio of 3:1. This "NO TUNE" indication is a series of "beeps" in the audio output.

The system is compatible with various standard battery types and operates with any DC voltage from 20 to 32 volts. High efficiency switching regulators maintain all internal voltages within 5% of nominal over all environmental conditions. Power drain of less than 6.5 watts in receive and less than 160 watts worst case transmit assures a battery life which meets mission requirements. A 9 to 1 receive to transmit cycle is recommended but the unit can be considered to be a continuous duty device at the sacrifice of battery life. The unit will not be damaged, even at maximum temperature, if keyed continuously.

System mechanical layout permits rapid failure location and correction through the use of numerous accessible test points, plug in modular construction, and planar PC layout.

The module system layout is shown in Figure 36. A typical plug in module is shown in figure 38. The removal slot can be seen in the upper left hand corner. Planar construction is also evident which results in relatively simple layout and ease of fabrication. Figure 37 shows the use of an ordinary screw driver to effect removal of a module for analysis.

Schematics for the modules are provided in this report as Addendum 2. The changes which resulted from the test observation have been included in these drawings which represent the modules and units in the delivered configuration.

5.0 Factual Data Analysis DC Input Current Requirement

Figure 6 shows the D.C. current requirement for the AN/PRC-70 radio set. Typically when delivering 30 watts output power in CW, FM, FSK modes of operation 144 watts of D.C. input power is required for a +24 DC source. SSB and AME operation require 108 watts D.C. input when measured with two tones and a PEP power output of 30 watts. In voice mode less than 70 watts are required. In the low power mode (3 watts RF output), less than 40 watts of D-C input power are required from a +24 source. Receive mode requires less than 6.5 watts of D.C. input power. These power requirements translate to a battery life as shown in Table 5.1. Also shown are some of the major characteristics of the batteries.

Battery	Type	Temp. Range	Condition	Battery Life	Weight Lbs.
BB 651 ( )/U	NICAD	-40°F to +140°F	1 Min Xmit FM	9 Hrs.	11.5
			9 Min Rec. SSB	12 Hrs.	
BB 534 ( )/U	Silver Zinc	-20° F to +120°F	1 Min Xmit FM	10 Hrs.	8.5
			9 Min Rec. SSB	13.5 Hrs.	

TABLE 5.1

5.2 GRA-71 Operation

The oscilloscope photos in Figure 7, 8, & 9 show the operation of the GRA-71 between two AN/PRC-70 radio equipments. The key line is the output of the GRA-71 entering Radio A; the RF output is that of Radio A which enters Radio B antenna port; the audio output is that of Radio B which enters the decode device or the GSH-6. The significance of the photos is the absence of "key clicks" or tails and the overall system response.

Successful tests were also conducted to verify the operation of the GRA-71 in conjunction with the GSH-6.

5.3 CW Mode Operation

During this testing, a problem was uncovered in the turn-around time of the AN/PRC-70 when operating in CW mode. The problem occurred wherein the first character was not transmitted when starting a message. This was due to a receive-to-transmit turn-around of 100 milliseconds. Upon investigation it was found that a transient went into the transmit audio section and shut off an operational amplifier for this period. Filtering was added to the power line plus a minor revision of the switching to alleviate this problem. The turn-around time is now less than 5 milliseconds which provides excellent CW performance.

5.4 RF Power Output and Receiver Sensitivity

Figures 10 and 11 shows the typical power output achieved while operating at cold temperature extremes. Several design deficiencies were noted during this phase of the testing and design changes resulted in acceptable performance.

Figures 12, 13, & 14 shows the typical receiver sensitivity performance obtained at temperature extremes.

5.5 Fungus

The Fungus Testing was completed and the only identifiable growth was a small amount noted on the rubber protective caps used on the 2-wire antenna input connector. No corrective action is planned since this item is an approved MIL type component purchased from a qualified source.

5.6 Humidity

Humidity testing has been completed. The unit performed satisfactorily during this test. Following completion of the test an examination of the boards revealed that tiny blisters (air bubbles) were present under the conformal coating Investigation has shown that this phenomenon occurs when proper cleaning is not accomplished before coating. Corrective action will be taken on all future systems.

5.7 Antenna Matching

One of the major design efforts in this development was directed toward solving the remaining problems in the antenna matching network. These were, in particular, the inability of the system to tune a 15-foot whip below 3.0 MHz, and various frequency "holes" when using the long wire. Modifications have been made with the addition of a transformer for use with the long wire antenna which links the impedance to 1000 ohms, and a logic change to the 15-foot whip. These changes have been incorporated into all systems. Table 1 shows the matching capability of the 21 ET/ST systems as measured with actual antennas. These measurements were made at Cincinnati Electronics with the equipment set on the ground and located approximately 300 feet from any large building or structure. As indicated a "hole" still exists around 20 MHz when using a 6 ft. whip.

5.8 Desensitization

Figure 15 shows the typical desensitization of the AN/PRC-70 Radio Set. The measurement was made by obtaining a 26 dB signal-to-noise ratio at the desired signal and increasing the interfering signal until this output signal-to-noise was degraded by 6 dB.

5.9 Wideband Delay

Figure 16 shows the absolute delay of a total system operating in wideband mode (one AN/PRC-70 transmitting and one AN/PRC-70 receiving). The photos in Table 2 show the response of the system at various repetition rates.

5.10 AGC Characteristics

The following table shows the AGC attack and decay characteristics in all modes.

AGC CHARACTERISTICS

Mode	Attack Time	Discharge Time
AM	15 ms	0.81 sec
CW	15 ms	0.81 sec
FSK	15 ms	0.81 sec
SSB	15 ms	1.25 sec

Figure 19 shows the AGC gain characteristics.

5.11 Audio Distortion

Table 3 shows the typical audio distortion. At the high level (300,000μV) the linear mode modulations are very close to saturation; hence the distortion varies drastically. Some radios have AM distortion as high as 26 percent. In all cases the distortion improves to under 5 percent when the level is reduced by 6 dB.

5.12 Receiver Squelch

Table 4 shows the receiver signal-to-noise squelch in all modes of operation. The squelch system has been adjusted in a laboratory environment, as well as in the field, to achieve optimum operational performance. In the FM mode the squelch has been operated with the AN/PRC-77 and in SSB/AM it has been operated with other AN/PRC-70's and randomly selected signals to prove compatability.

TABLE 4. SQUELCH CHARACTERISTICS

MODE	Un-squelch Output SINAD	Squelch Output SINAD	Decay Time (Sec)	Attack Time (msec)
SSB	4 dB	4 dB	1.2	80
AME	4 dB	4 dB	1.2	80
FM	6.5 dB	6.5 dB	1.2	80

Squelch Operation is disabled in the CW and FSK modes.

5.13 Transmit FM Deviation

Although FM deviation is preset at the module level, when measured at the system level it is typically $\pm$ 9 kHz for a 1 kHz tone. The 150 Hz tone when measured at system level is $\pm$ 3 kHz

5.14 Transmit Intermodulation Distortion

Table 5 shows the 3rd and 5th order intermodulation products typically being achieved as well as for the carrier suppression, hum, noise, and lower sideband.

5.15 Antenna Matching

Table 6 shows the antenna coupler matching capability. This data has been taken with the developed antenna loads. Table 1 shows the tuning of the actual 6, 9, and 15-foot long whip antennas. The coupler will match 50 ohms

up to 65 MHz and above this point is very marginal. Upon investigation it was found that the network is not capable of matching this load above this frequency without reduction of center point capacity. If the center point capacity is reduced, the 9 and 6-foot long whip antennas cannot be tuned. No action is presently planned to correct the 50 ohm matching problem since it is only a test condition. A matching network as part of the test set is, however, being considered. The 15-foot whip and other antenna matching have been corrected by a logic change. A photo of a dummy load is shown by Figure 19. Figures 20 thru 34 are computer plots of dummy load box inductor and capacitor settings. These plots are for load SN2. The plots for the other loads have been supplied with each specific load already delivered.

5.16 Reliability Tests

The reliability tests consisting of a Reliability Acceptance Test and a Reliability Index determination test have been successfully completed. The Reliability Acceptance tests indicated an MTBF greater than 1000 hours after a total of 7897 hours were accumulated on six (6) units. The RID test indicated an MTBF of 1867 hours after a total of 16,800 hours were accumulated on the test samples. The results of these tests are detailed in the applicable test reports.

6.0 Conclusions

6.1 Electrical Design

The ET/ST units retain all the important features of the engineering prototype models and exhibit definite improvements over earlier design concepts for this type equipment.

6.2 Advantages over Existing Equipments

Comparison to existing equipments relative to electrical performance characteristics and capabilities is not meaningful because there is no equipment which was required to have all the features listed under Technical Characteristics (see Section 3.11)

The advantages therefore are mainly a repetition of these major characteristics as required by the applicable specification. These are:

- Broad frequency coverage, 2 to 76 MHz
- Practically continuous tuning, 100 Hz steps
- Fast automatic tuning into a wide variety of antenna configurations, average tuning time approx. 1 sec.
- Optimum antenna radiation efficiency because of automatic tuning feature. Also provided with audible indicator to tell operator that antenna is mistuned.
- High or low RF power selection, 3W or 30 W
- Ability to operate in a variety of common communication modes compatible with existing systems, SSB, AME, CW, FSK & FM.
- Size and weight. Transportable in rucksack frame, total RT weight less than 18 lbs.
- Completely transistorized (silicon) to operate over temperature range of -50°F to +160°F.
- High inherent availability because of high demonstrated MTBF and low MTTR. Calculation yields 99.98%. Assuming good depot and maintenance procedures a Field Availability of 90% can be anticipated.

6.3 Design Improvements

The more important improvements in design of the AN/PRC-70 as a result of the test program include the following:

1) Mechanical reinforcements and protection pads to enable successful drop test results.
2) Antenna Coupler modifications which enabled the system to tune the 6, 9, & 15 foot whip antennae as well as the doublet and long wire.
3) Improvement of card guide rivets (solid instead of hollow) resulted in more consistent grounds and improved equipment performance.
4) Circuit modifications to enable units to perform within specification at cold and hot extremes.

ADDENDUM 1

Human Factors Engineering Final Report - J004

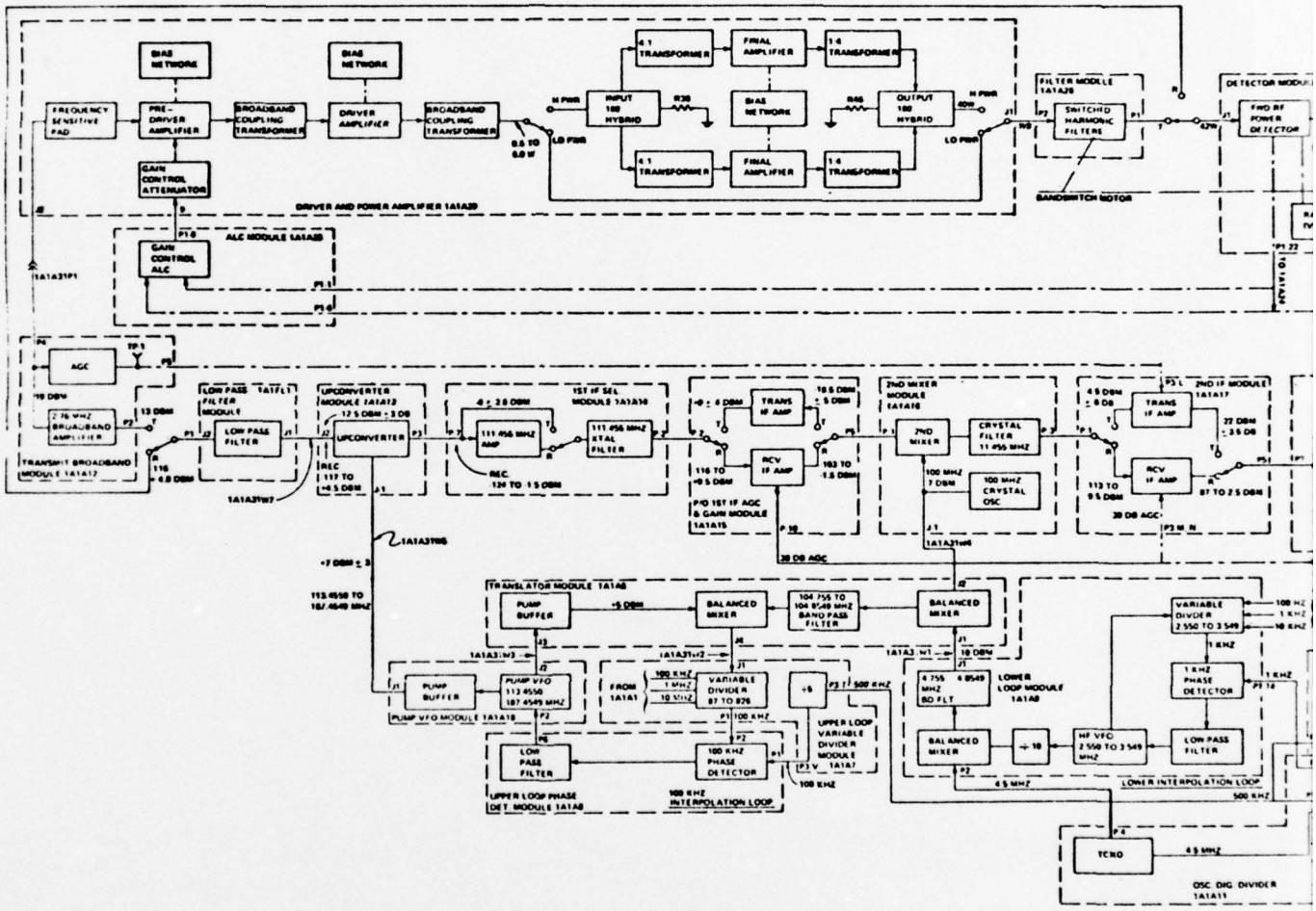
The primary objective of the AN/PRC-70 Human Factors Engineering program was to promote the development of a functionally integrated equipment in compliance with a person's capabilities.

The basic human-machine interfaces, as detailed in the system specifications, have been successfully implemented. Information flow and operator task loading have been optimized in the AN/PRC-70 control panel through selective displays and placements of the controls.

Information flow and maintenance personnel taskloadings have been optimized by use of selected test points, placement of these points and construction of the equipment. The successful completion of the Maintainability Demonstration showed that the mechanical design and the electrical test point selection were adequate to meet the maintainability requirements specified.

Complete equipment supportability has been assured through effective interfaces between the Human Factors Engineers and the Maintainability, Reliability, Engineering, and Technical Publications working groups.

FIGURES



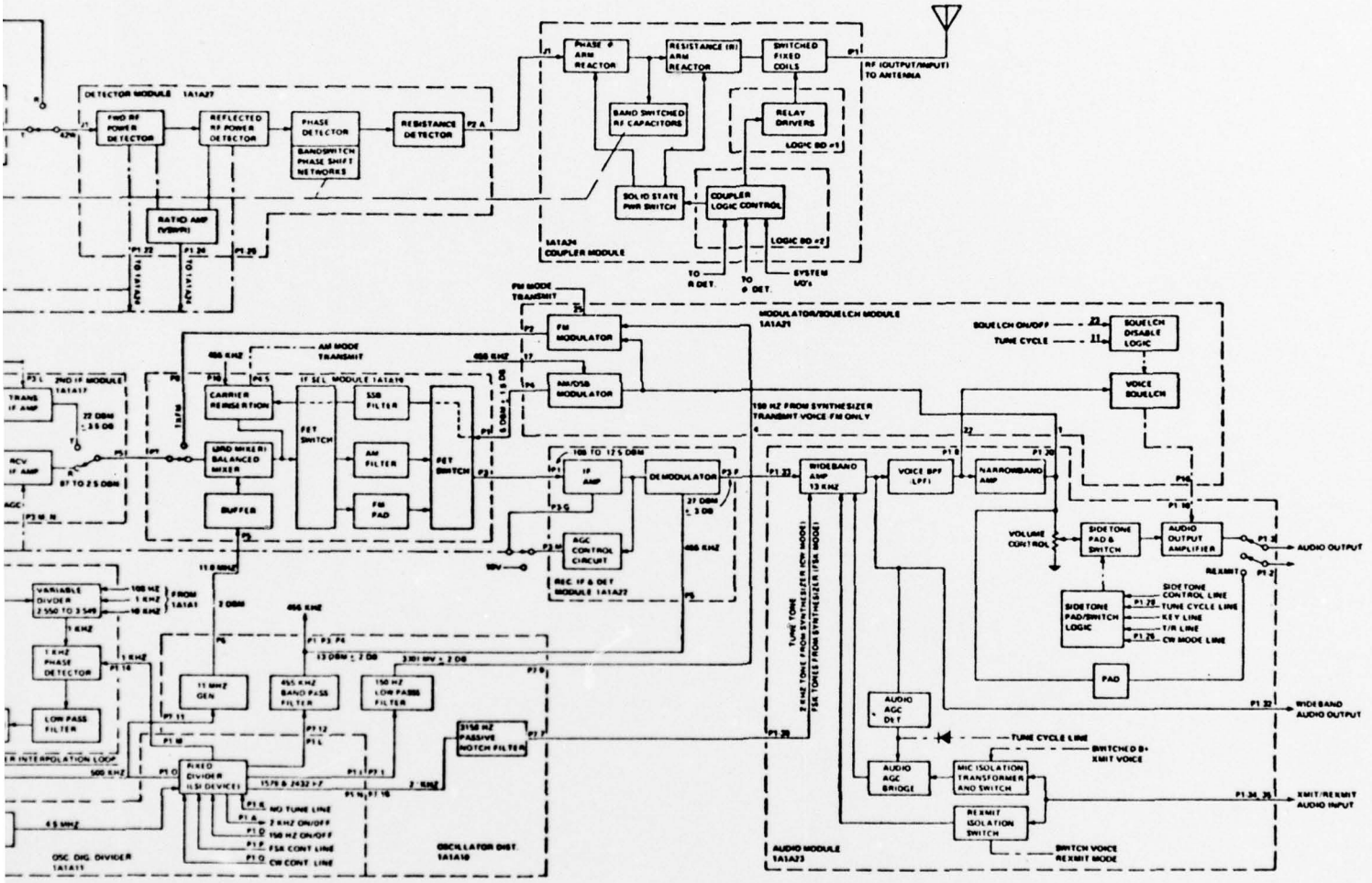
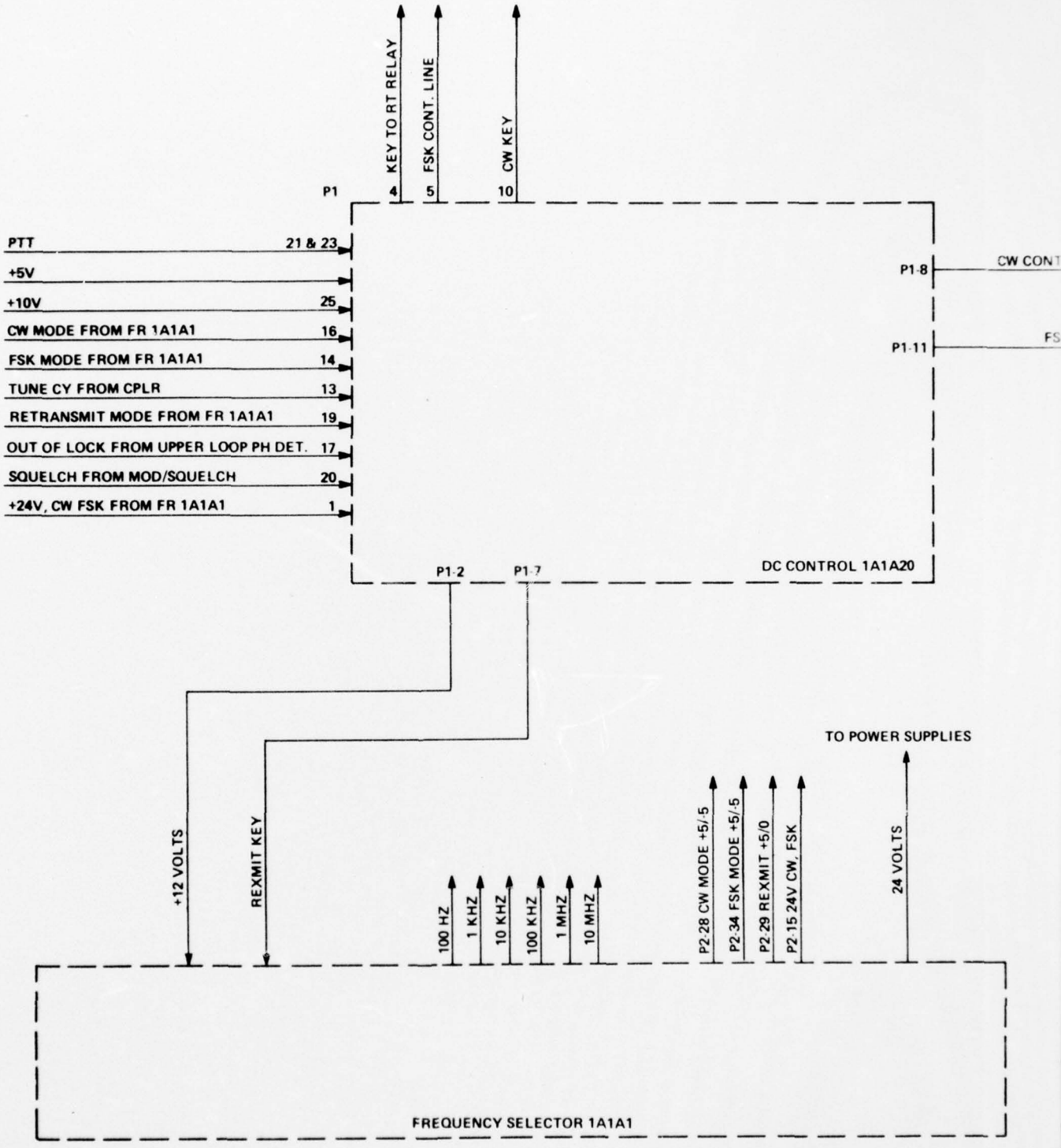


Figure 1 Receiver-transmitter block diagram (sheet 1 of 2)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CW KEY
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4
5
10
PTT
21 & 23
+5V
+10V
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16
FSK MODE FROM FR 1A1A1
14
TUNE CY FROM CPLR
13
RETRANSMIT MODE FROM FR 1A1A1
19
OUT OF LOCK FROM UPPER LOOP PH DET.
17
SQUELCH FROM MOD/SQUELCH
20
+24V, CW FSK FROM FR 1A1A1
1
P1-8
CW CONT
P1-11
FS
P1-2
P1-7
DC CONTROL 1A1A20
TO POWER SUPPLIES
+12 VOLTS
REXMIT KEY
100 HZ
1 KHZ
10 KHZ
100 KHZ
1 MHZ
10 MHZ
P2-28 CW MODE +5/-5
P2-34 FSK MODE +5/-5
P2-29 REXMIT +5/0
P2-15 24V CW, FSK
24 VOLTS
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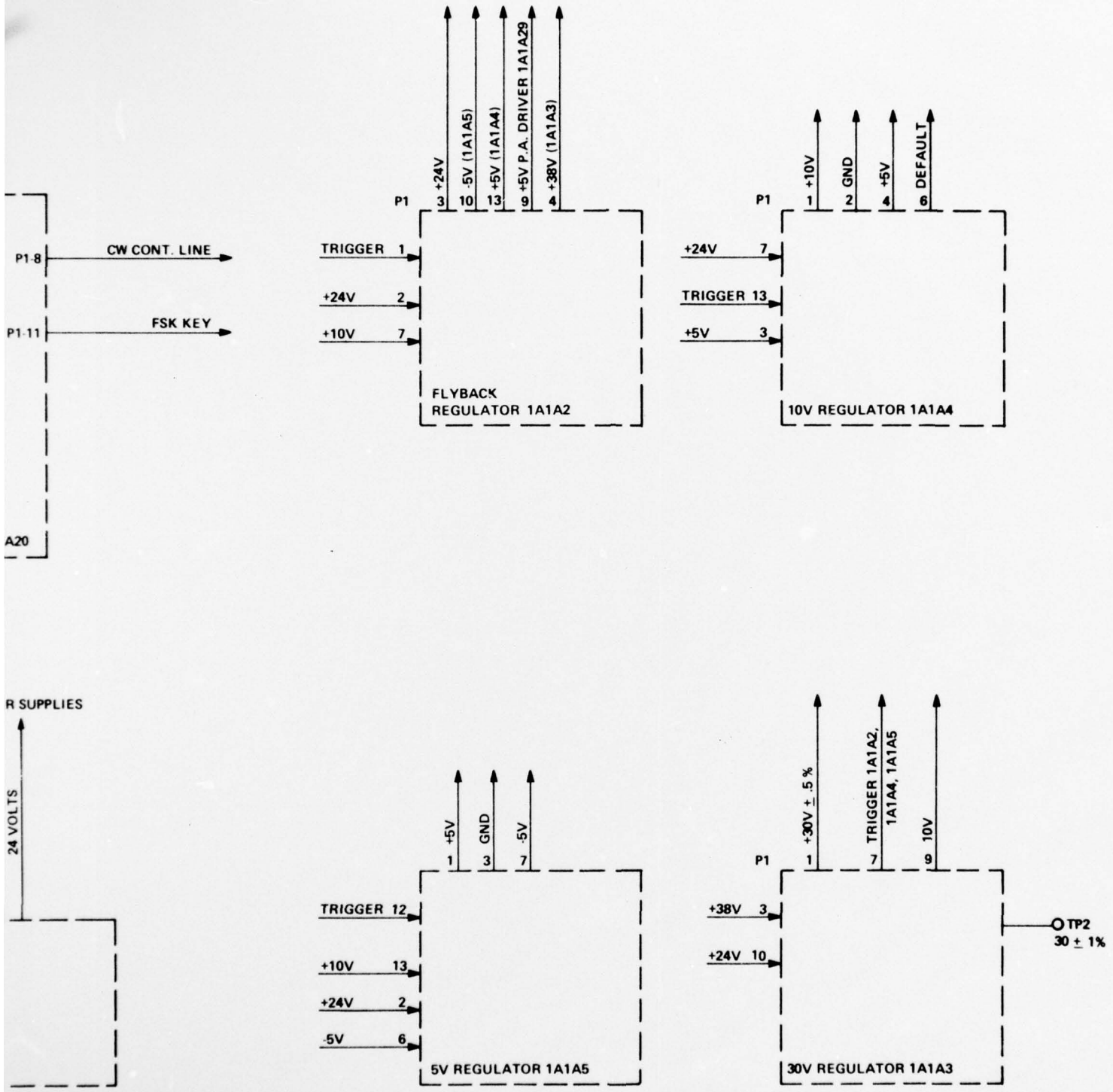
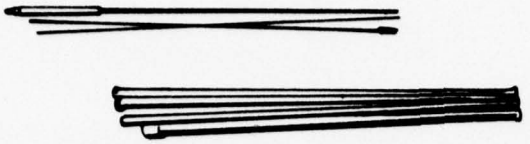


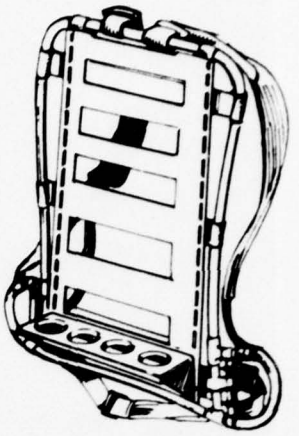
Figure 1 Receiver-transmitter block diagram (sheet 2 of 2)

2

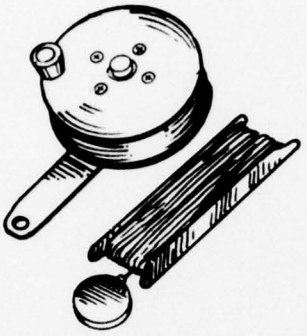


COMBINATION WHIP ANTENNA

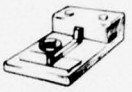
ACCESSORY CARRYING BAG



CARRYING KIT

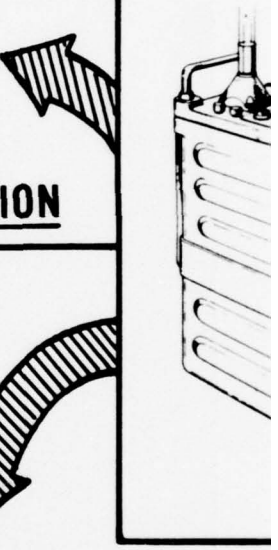


300 FT. LOW RADIATING ANGLE ANTENNA

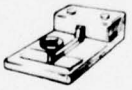


KEY

HEAD SET

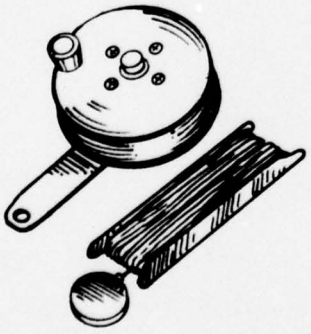


ONE-MAN CW CONFIGURATION

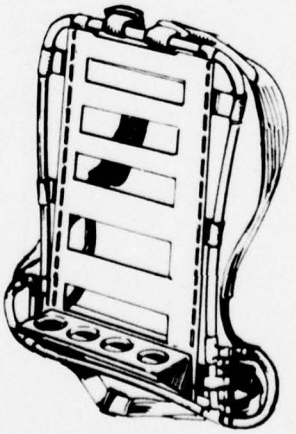


KEY

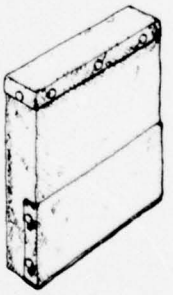
HEAD SET



300 FT. LOW RADIATING ANGLE ANTENNA



CARRYING KIT



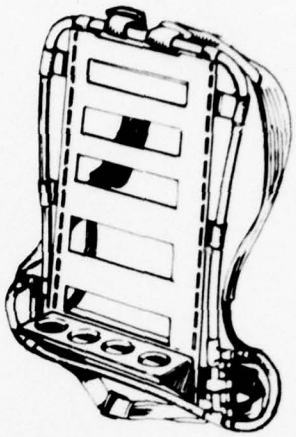
ANCILLARY CARRYING BAG

ACCESSO
CARRYI
BAG

NOTE: NOT DRAWN TO SCALE

KIT

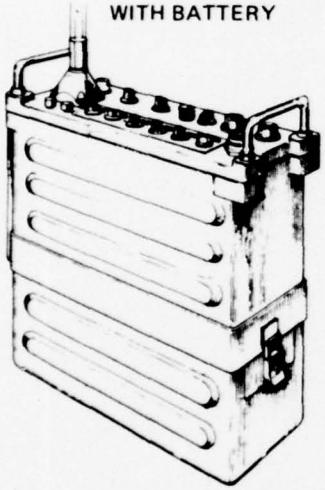
ACCESSORY CARRYING BAG

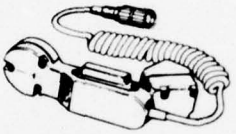


CARRYING KIT

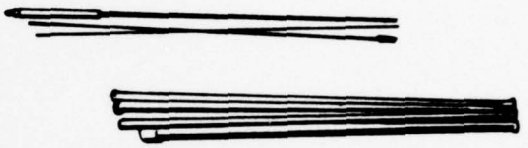
ONE-MAN VOICE CONFIGURATION

RECEIVER-TRANSMITTER WITH BATTERY



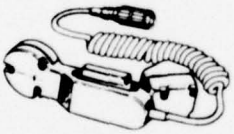


HAND SET



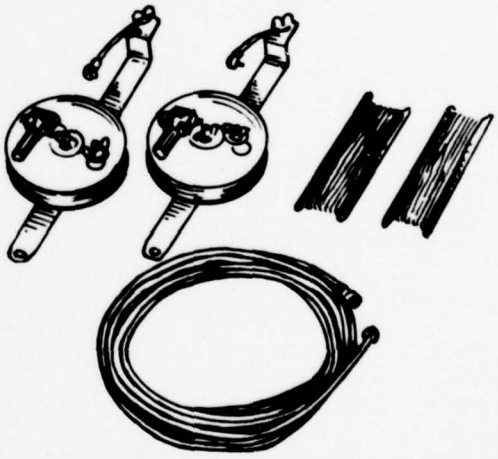
COMBINATION WHIP ANTENNA

TWO-MAN CONFIGURATIONS (VOICE AND CW)



HAND SET

MAST CARRYING BAG



HALF WAVE DOUBLET ANTENNA

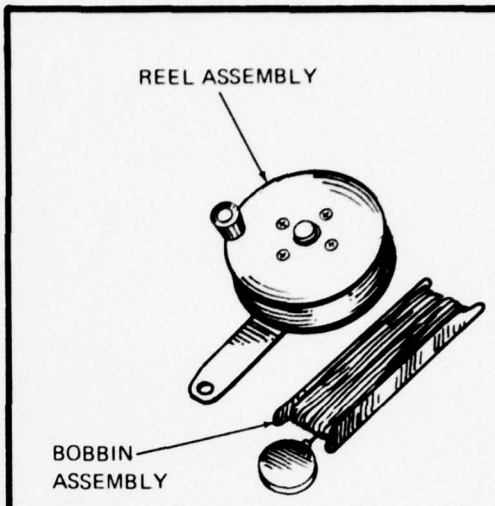
MAST ASSEMBLY

ACCESSORY CARRYING BAG

Figure 2 One- and two-man load configurations

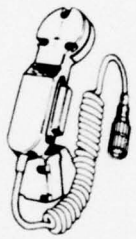
ACCESSORY
CARRYING
BAG

NOTE: NOT DRAWN TO SCALE



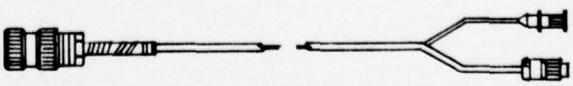
LOW RADIATING ANGLE ANTENNA
ASSEMBLY AS-2973/PRC-70

HEADSET H-251/U



HANDSET H-138B/U

TELEGRAPH KEY KY-605/U



BURST CABLE
ASSEMBLY

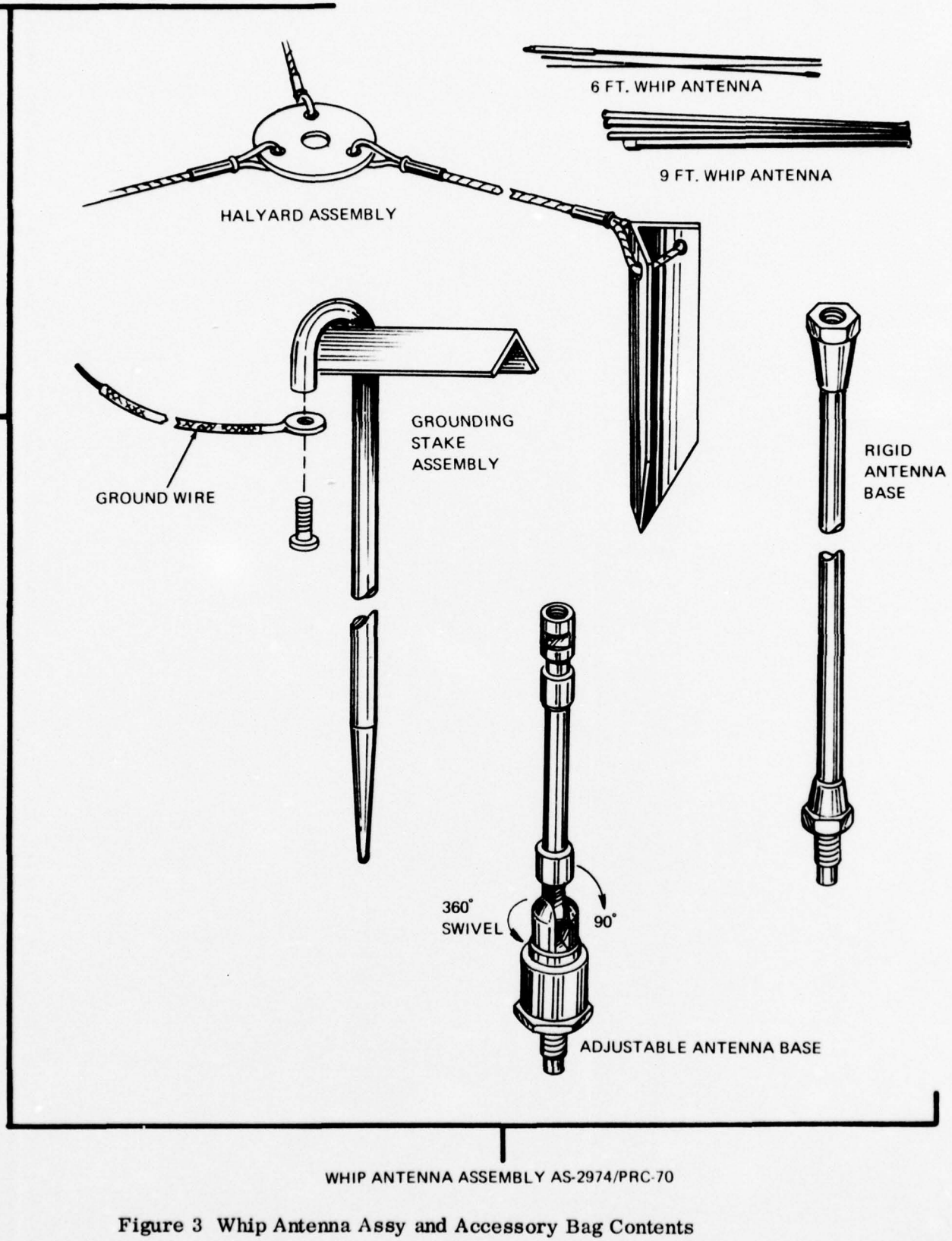
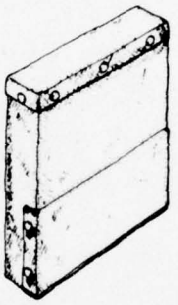
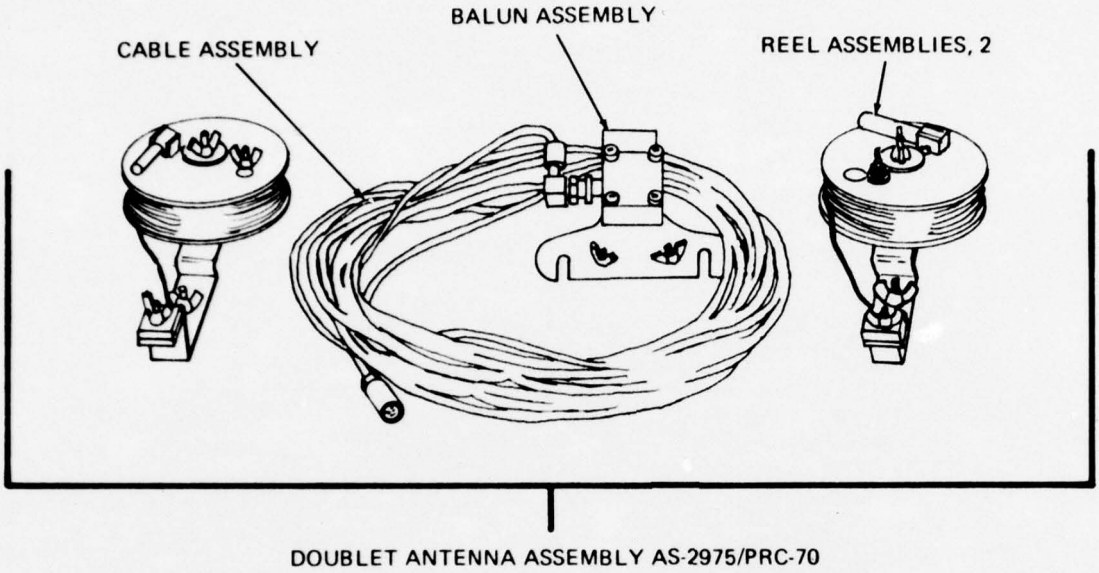


Figure 3 Whip Antenna Assy and Accessory Bag Contents



ANCILLARY
CARRYING
BAG

NOTE: NOT DRAWN TO SCALE



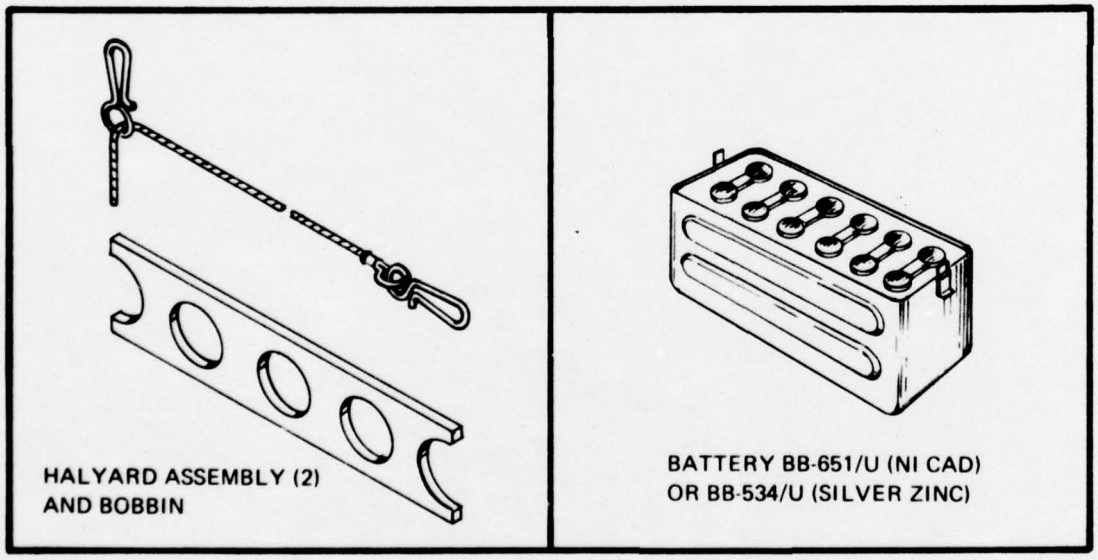
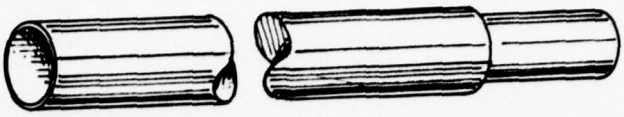


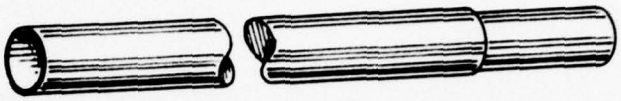
Figure 4 Contents of Ancillary Carry Bag

2

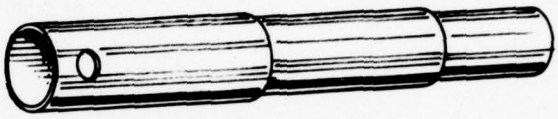
MAST
CARRYING
BAG



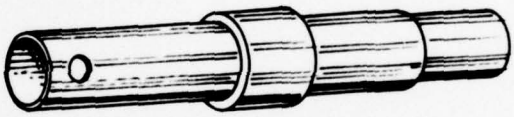
MAST SECTIONS, LARGE DIAMETER, 5



MAST SECTIONS, SMALL DIAMETER, 5

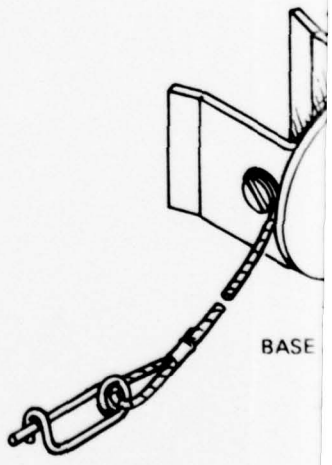


TRANSITION ADAPTER, 1



INSULATOR, 1

BASE LOCKING PINS, 2



BASE

NOTE: NOT DRAWN TO SCALE

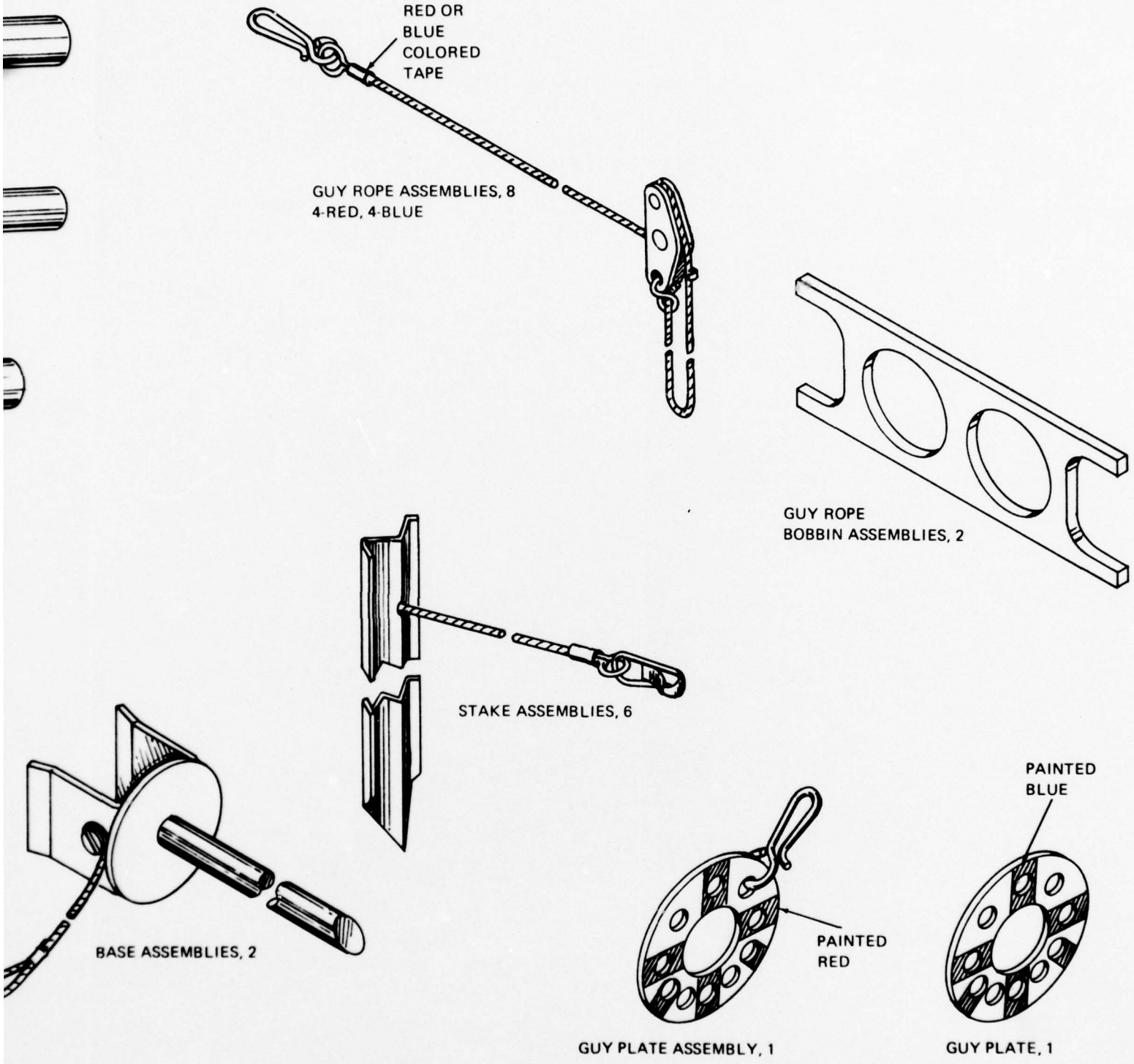


Figure 5 Doublet Antenna-Mast Carrying Bag

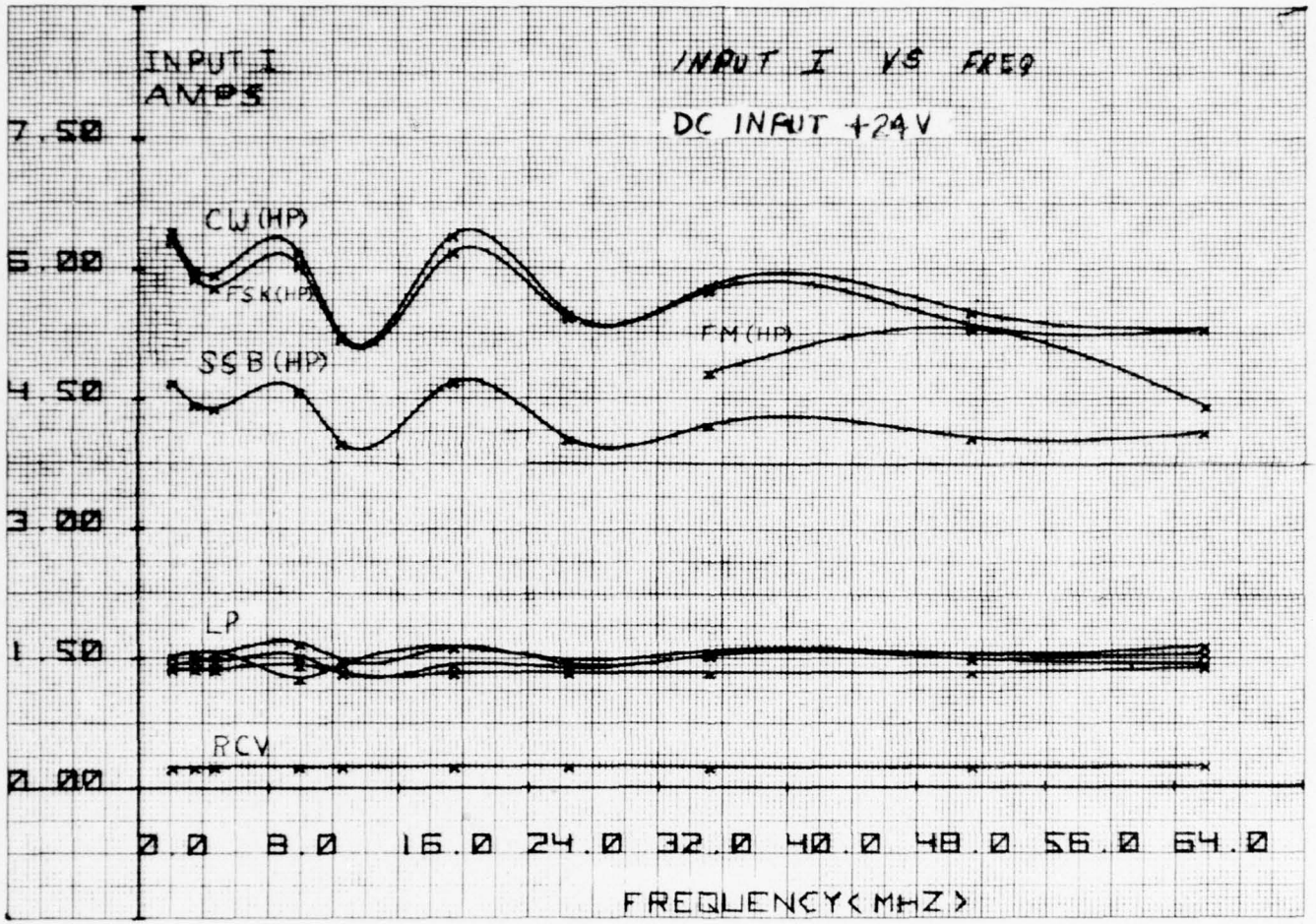
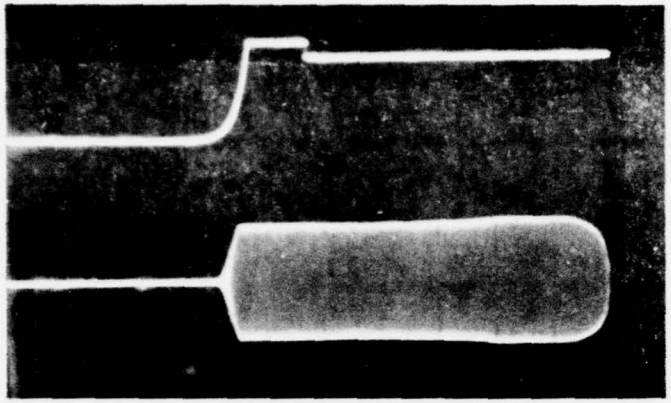
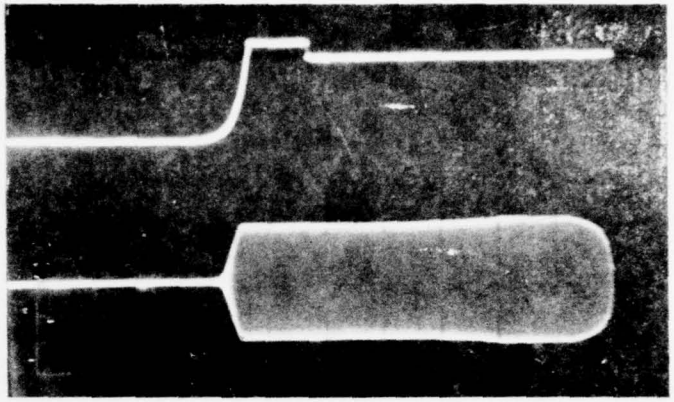


Figure 6 Input Current vs. Frequency - PRC-70

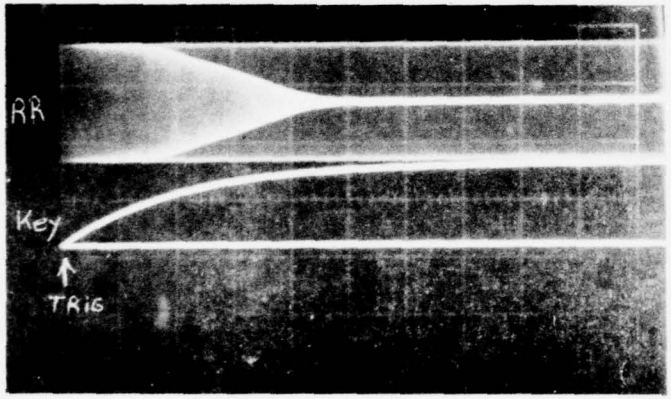
PRC-70 WITH GRA-71
IDY SIGNAL



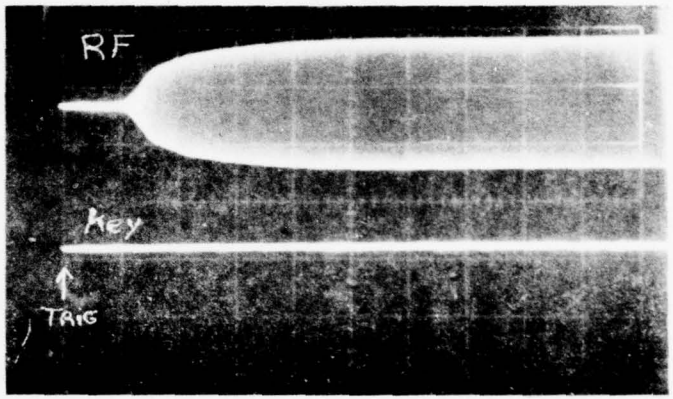
0.5 MSEC/DIV



0.5 MSEC/DIV



50 μSEC/DIV

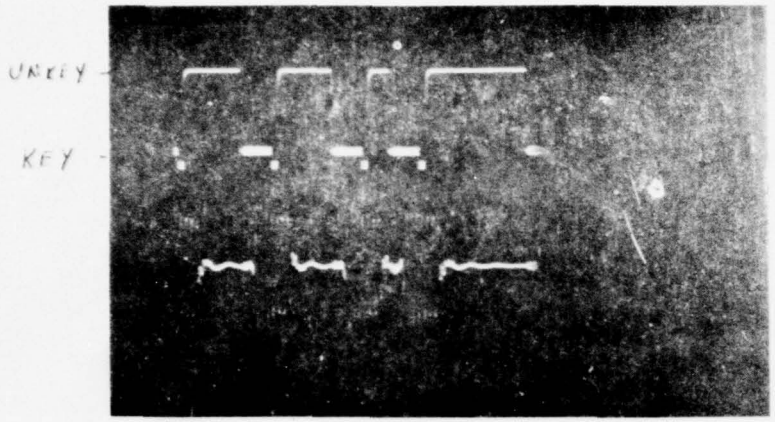


0.1 MSEC/DIV

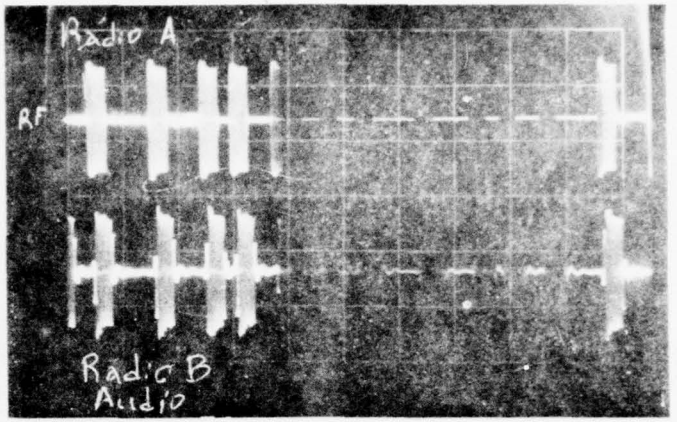
Figure 7

PRC-70 WITH GRA-71

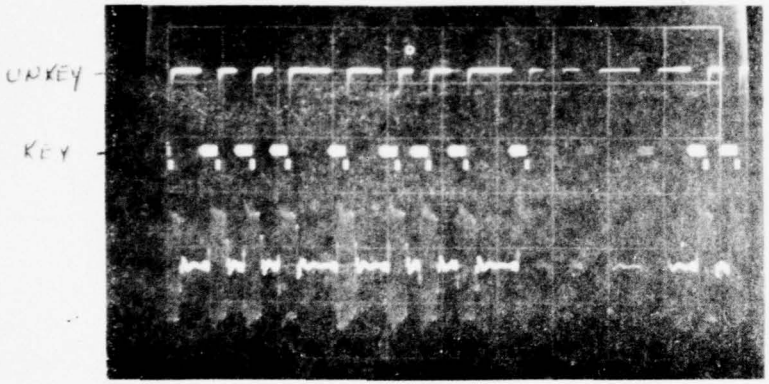
(CODE)



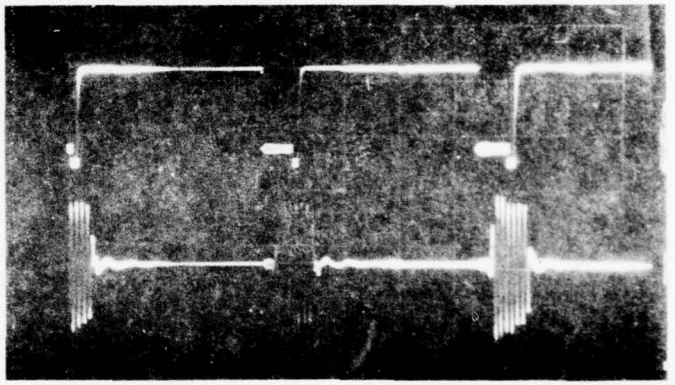
10 MS/DIV



10 MS/DIV



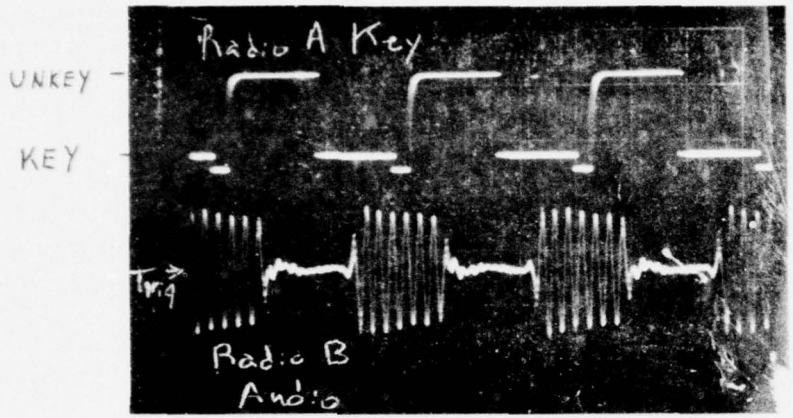
10 MS/DIV



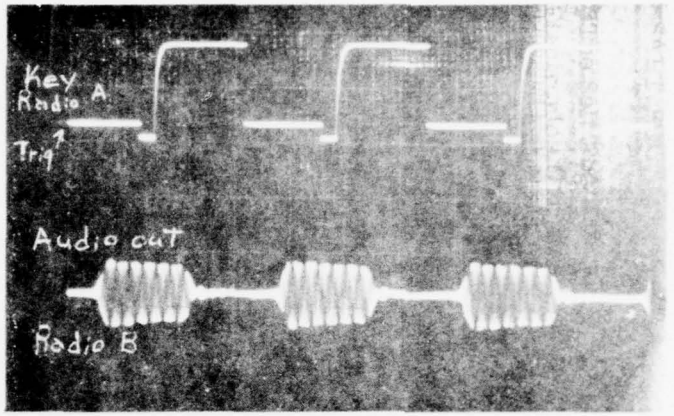
5 MS/DIV

Figure 8

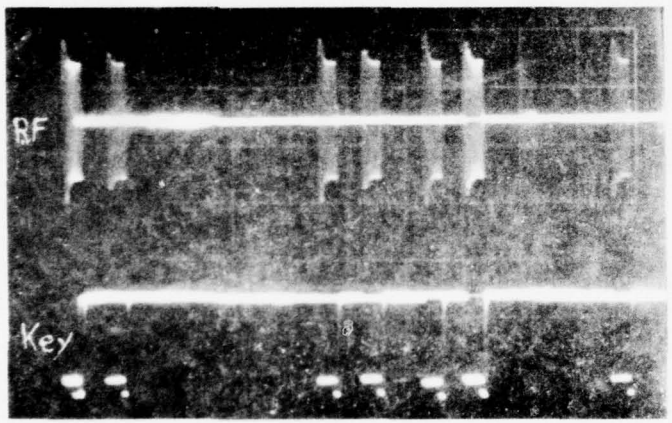
PRC-70 WITH GRA-71
IDY SIGNAL



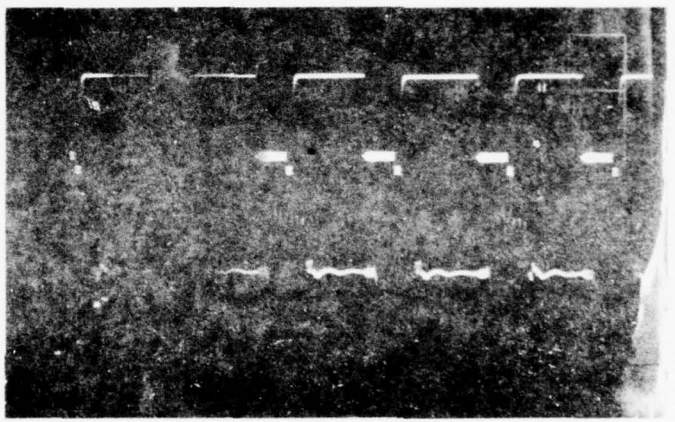
2 MS/DIV



2 MS/DIV

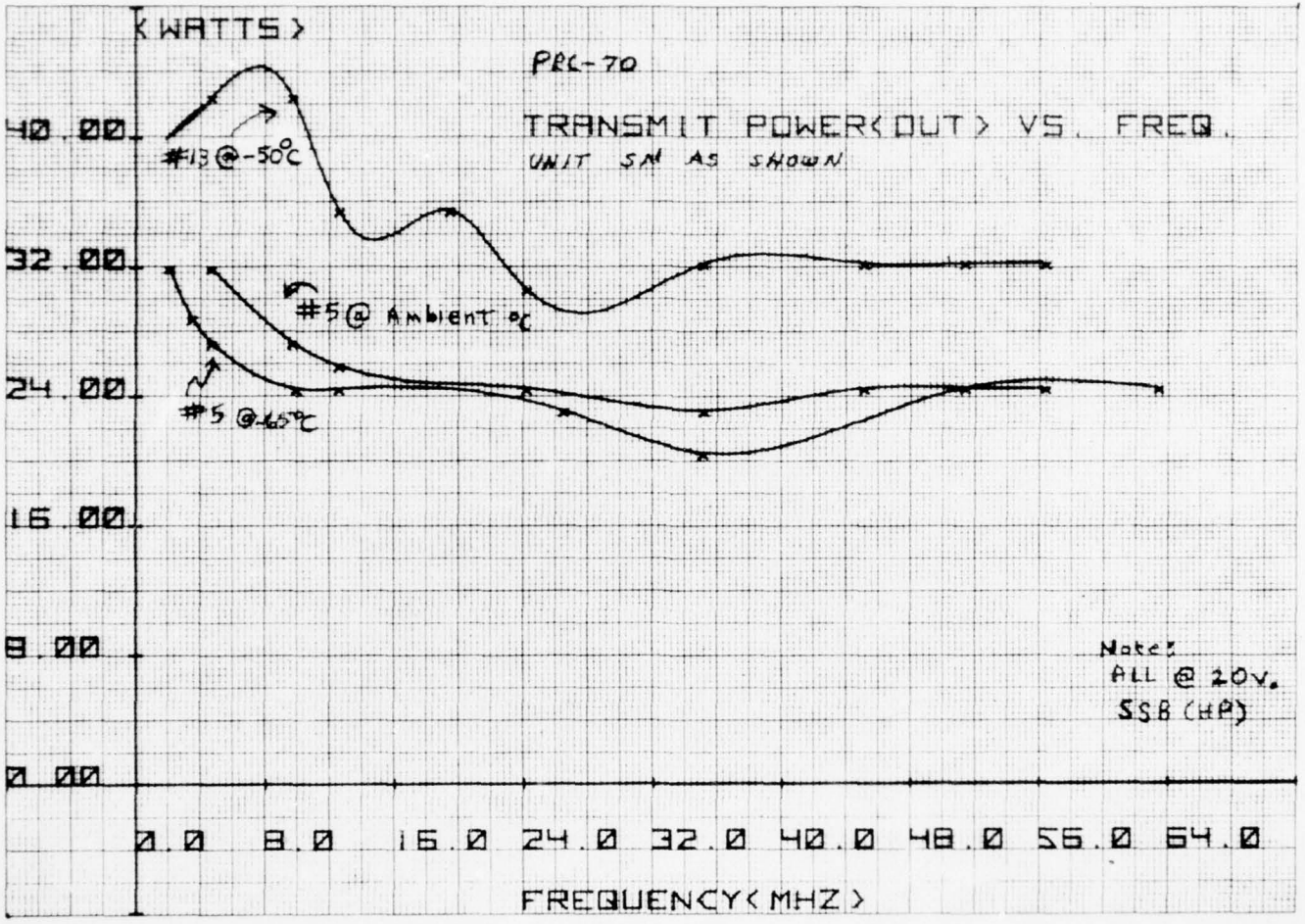


10 MS/DIV



5 MS/DIV

Figure 9



Transmit Power (Out) vs. Frequency S/N 13 at -50°C, S/N 5 at ambient °C, S/N 5 at -65°C

Figure 10

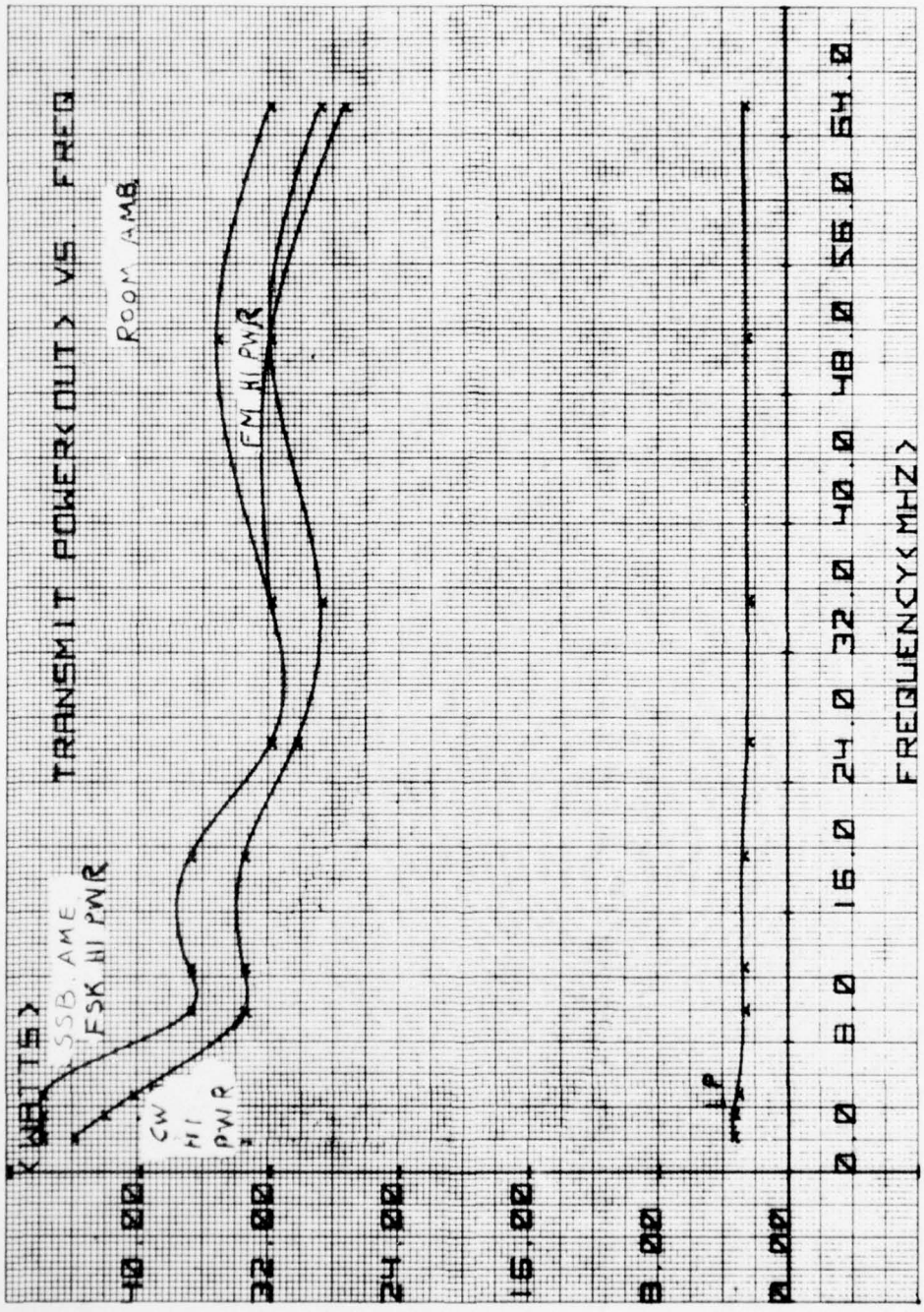


Figure 11 Transmit Power (Out) vs. Frequency at Room Ambient

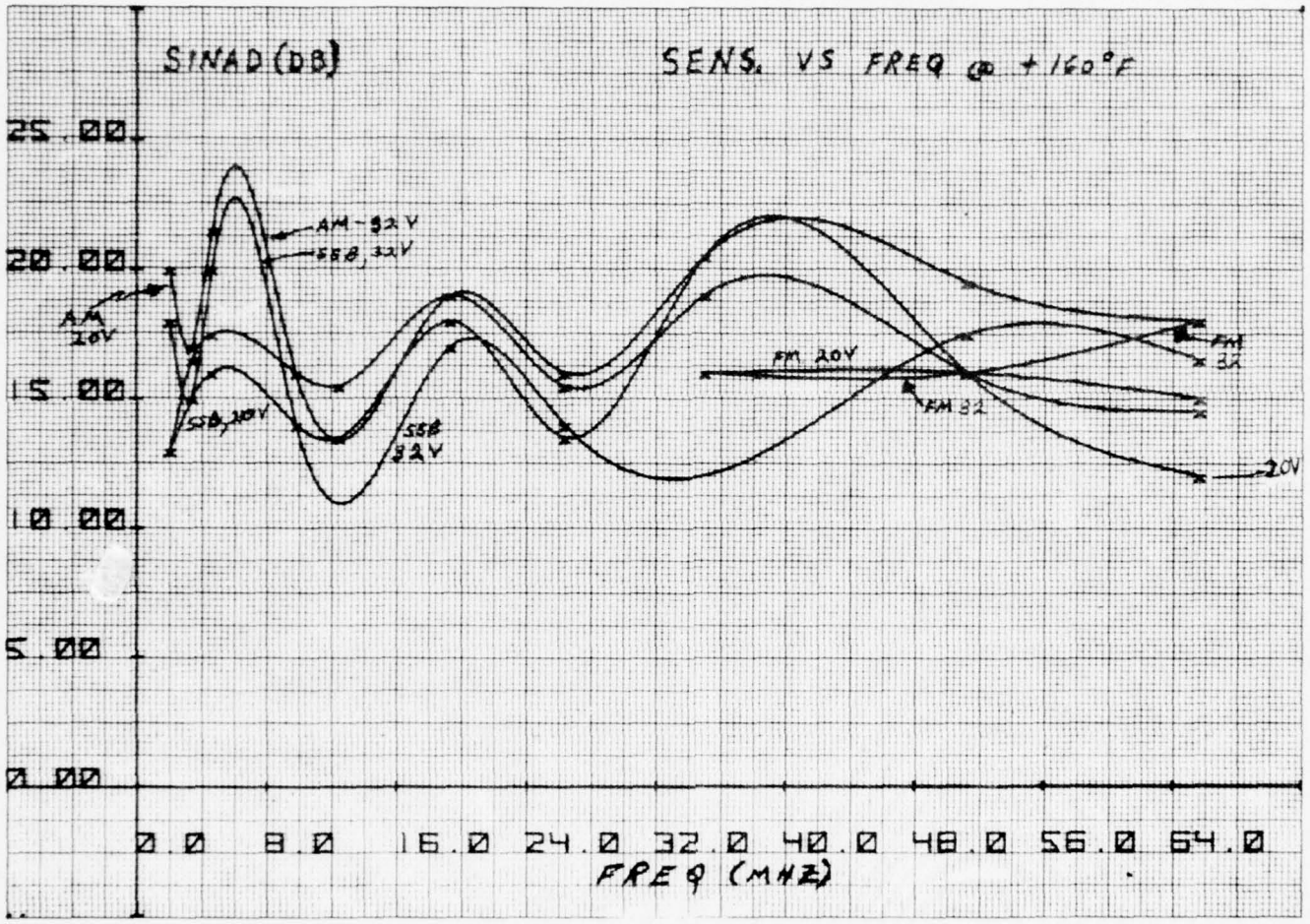


Figure 12 Sensitivity vs. Frequency at +160°F

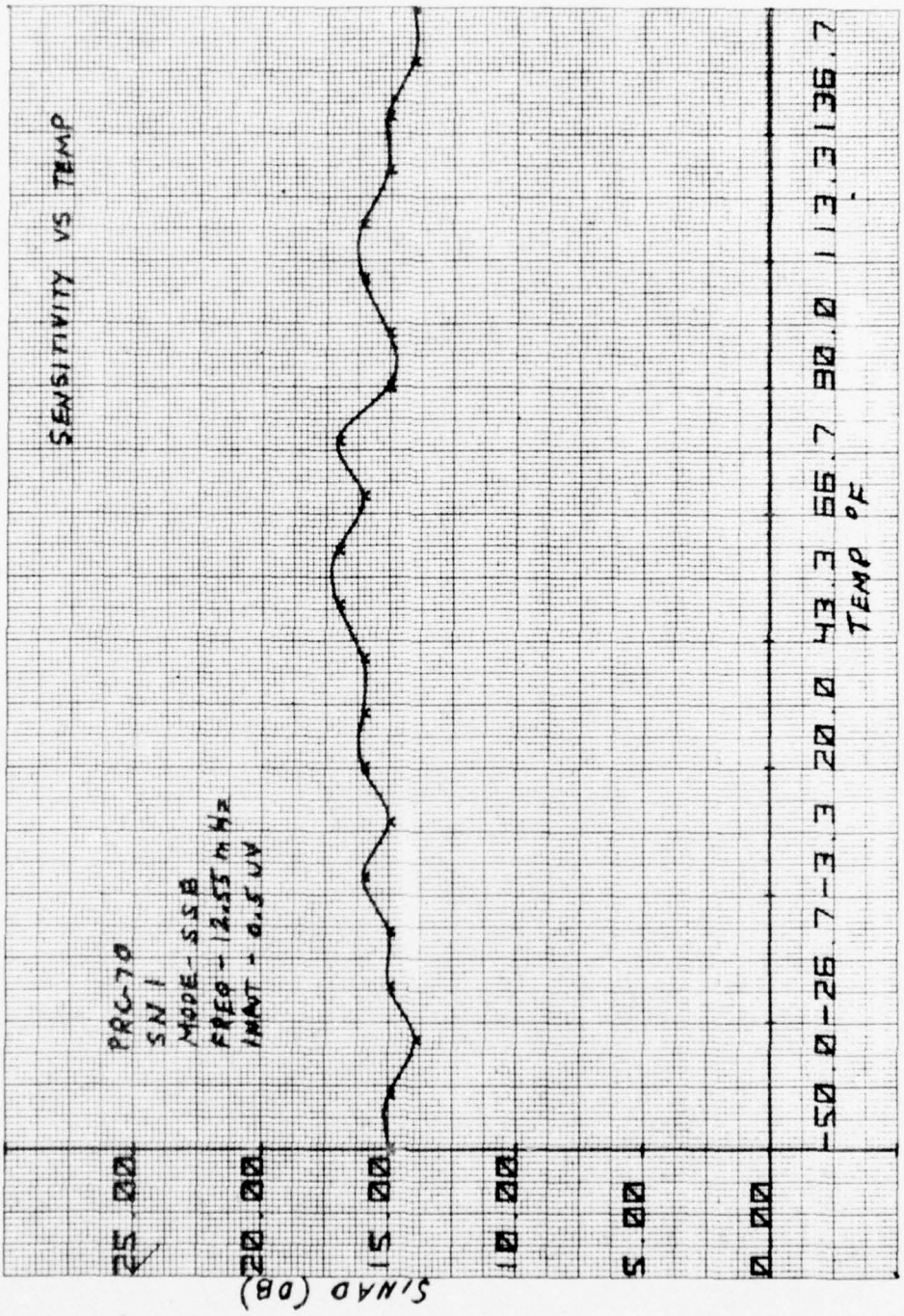


Figure 13 Sensitivity vs. Temperature

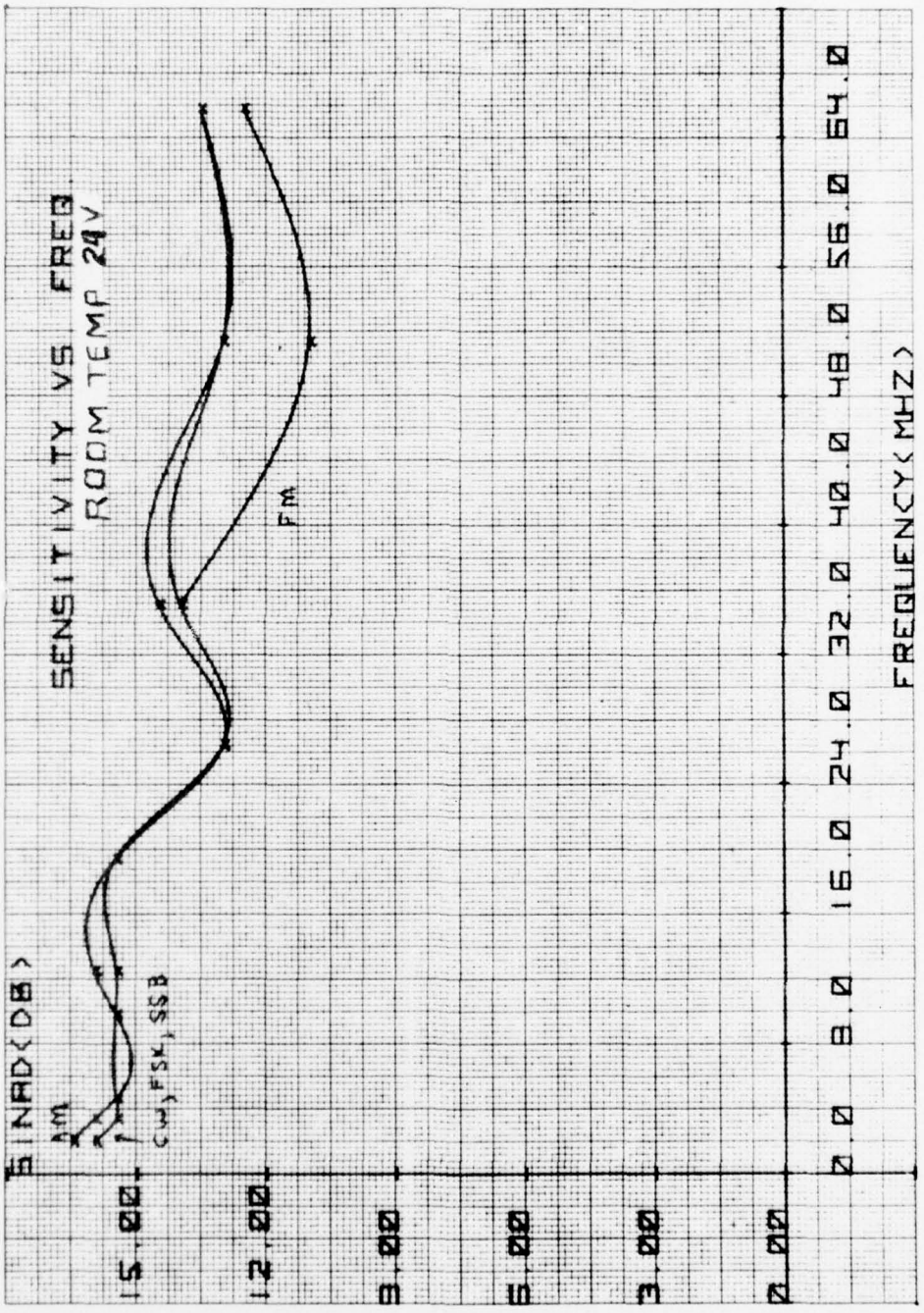


Figure 14 Sensitivity vs. Frequency

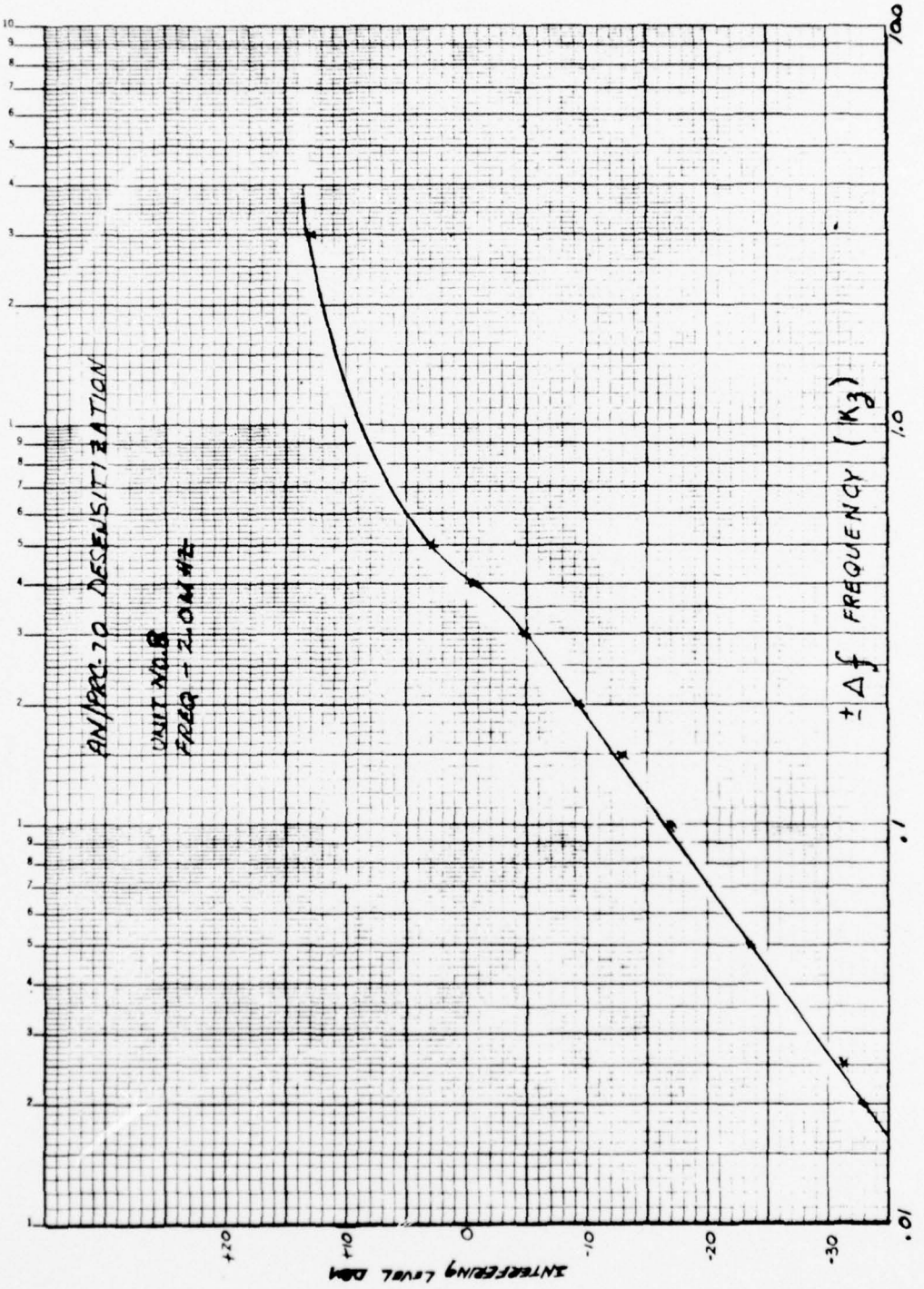


Figure 15 AN/PRC-70 Desensitization Data

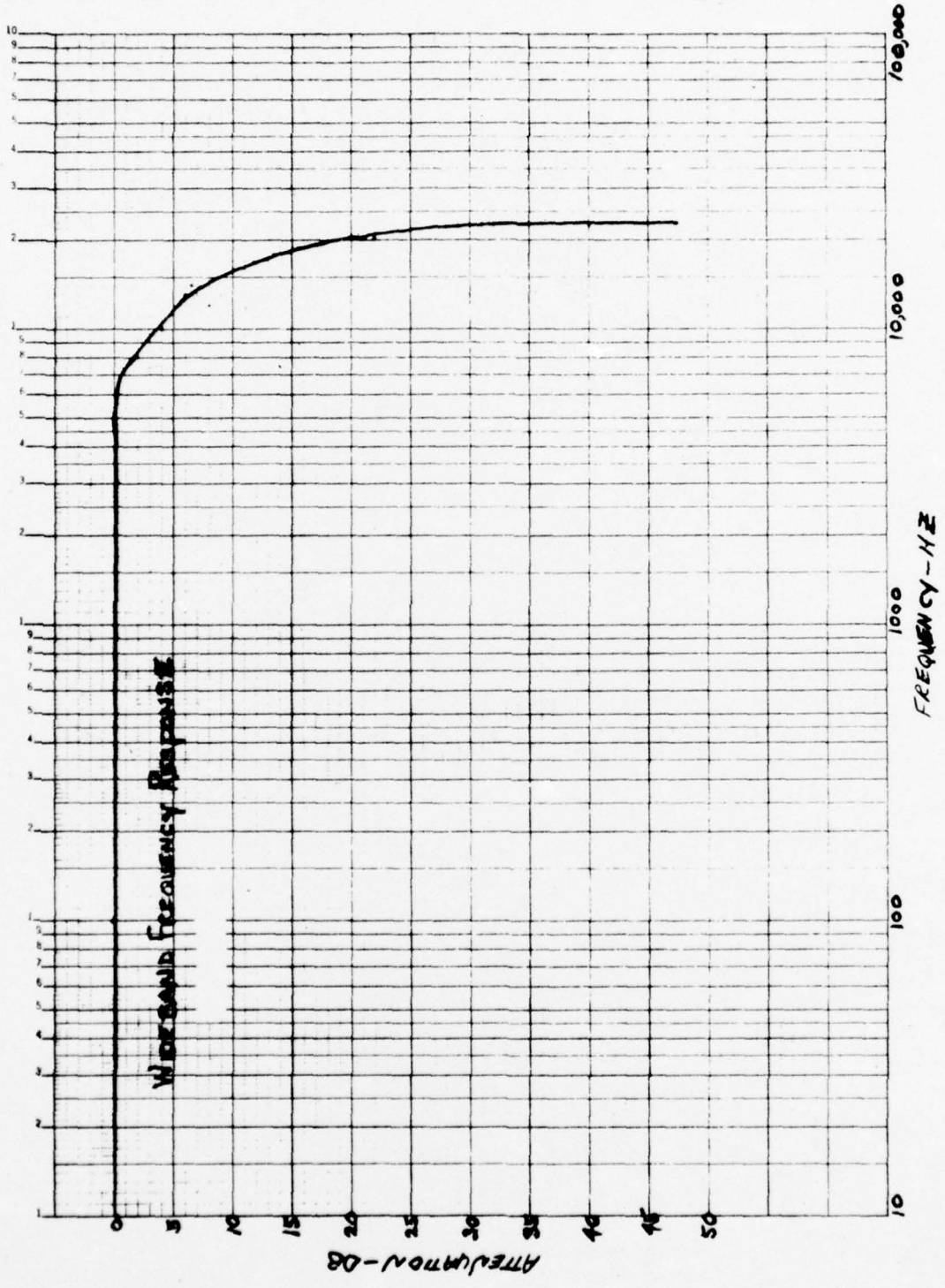


Figure 16 Wideband Frequency Response

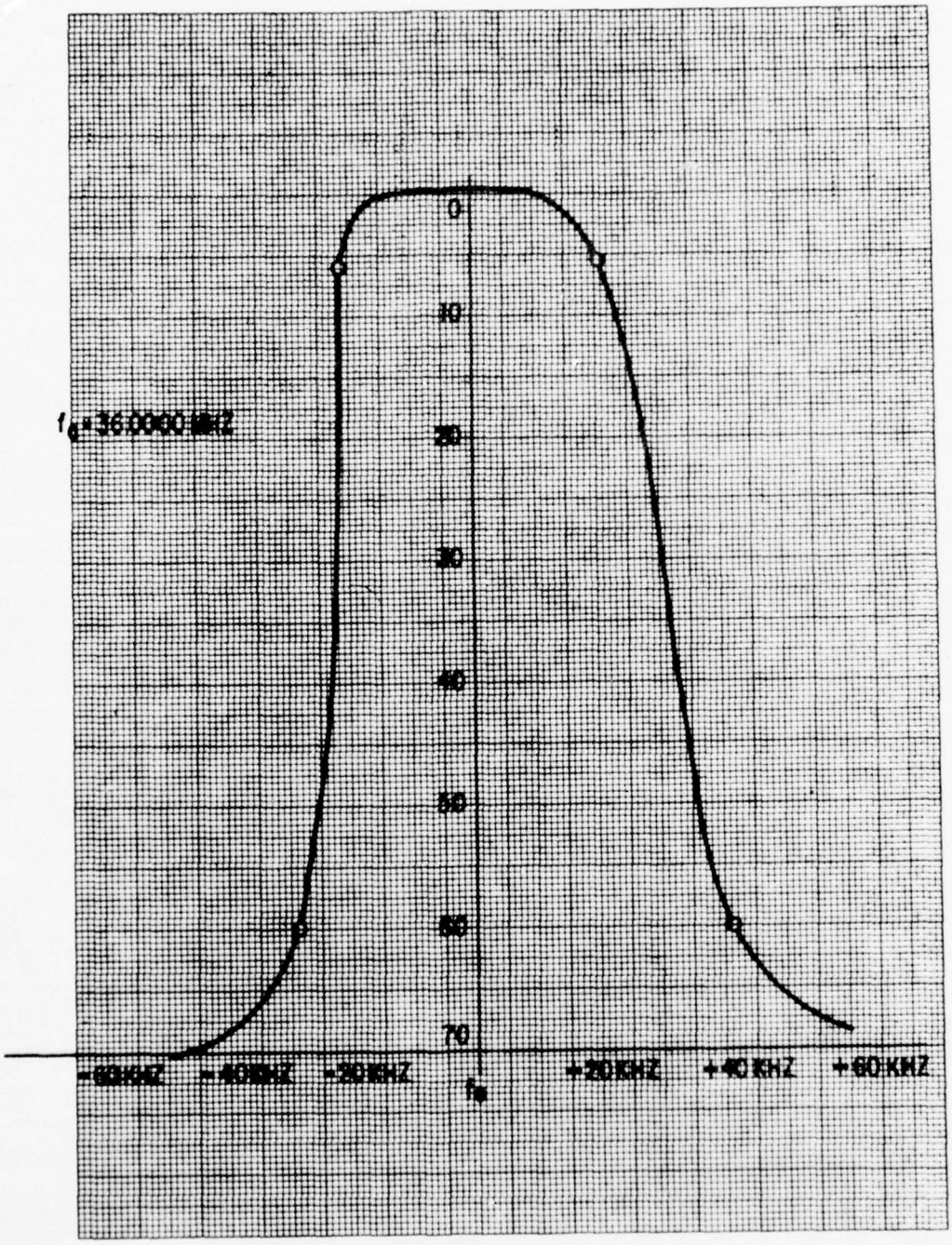


Figure 17 FM Selectivity

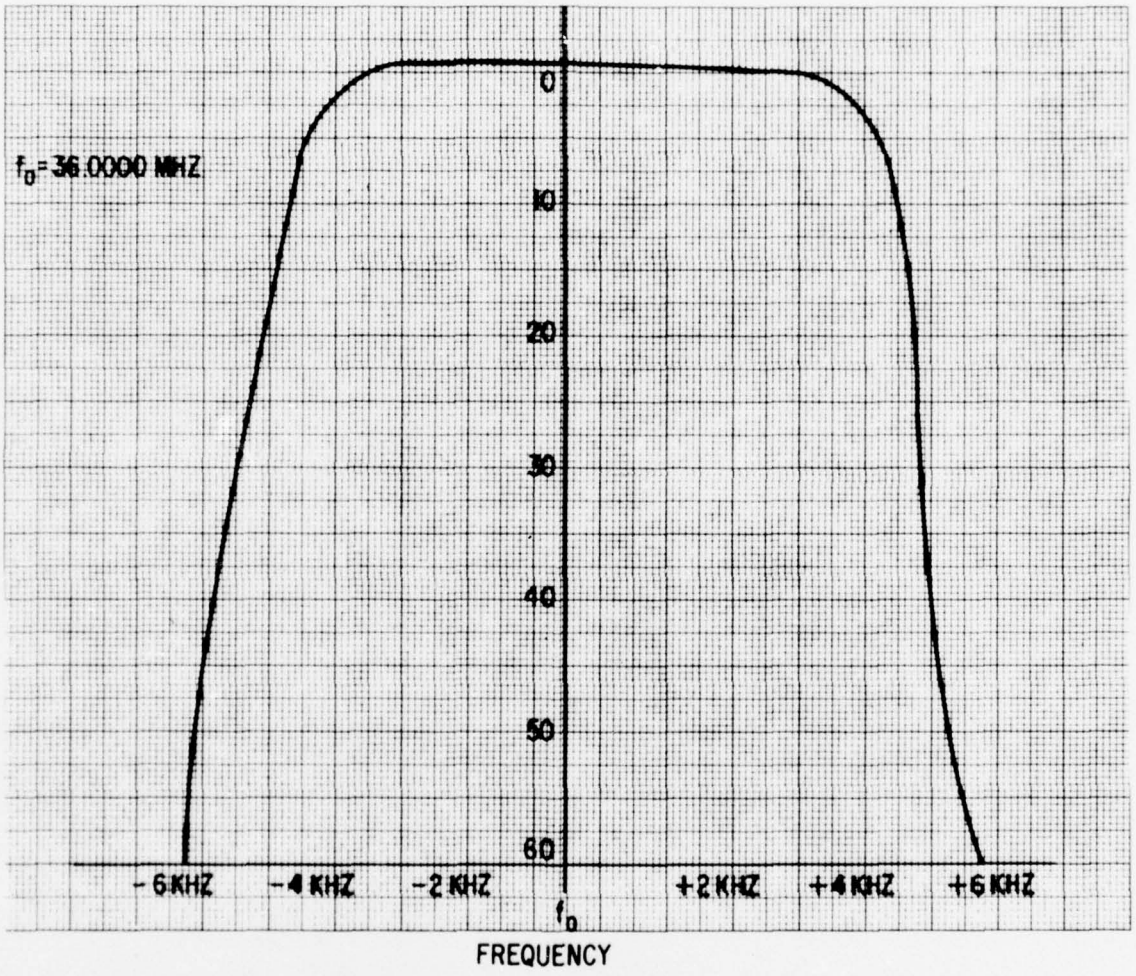


Figure 18 AM Selectivity

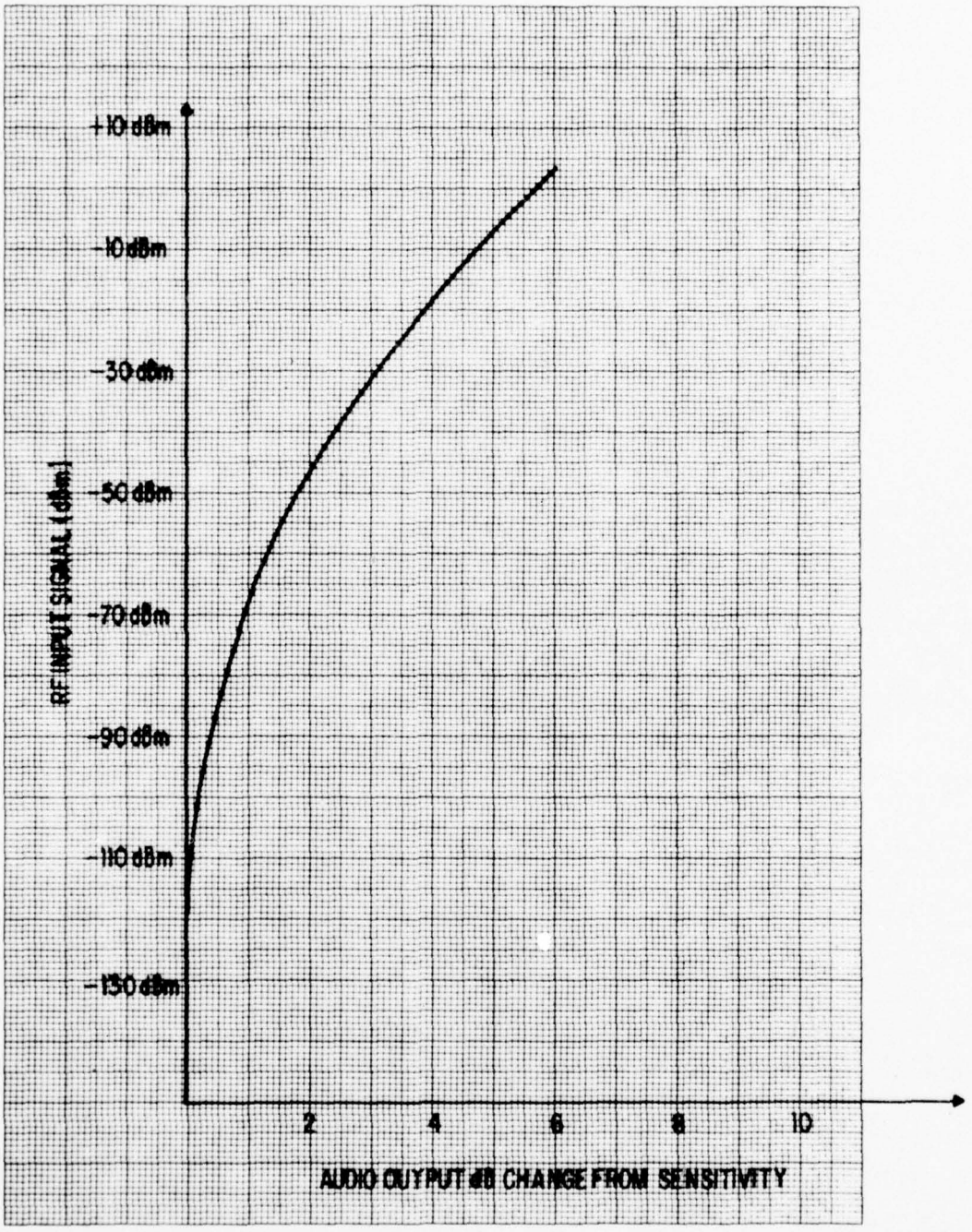


Figure 19 AGC Gain Characteristics

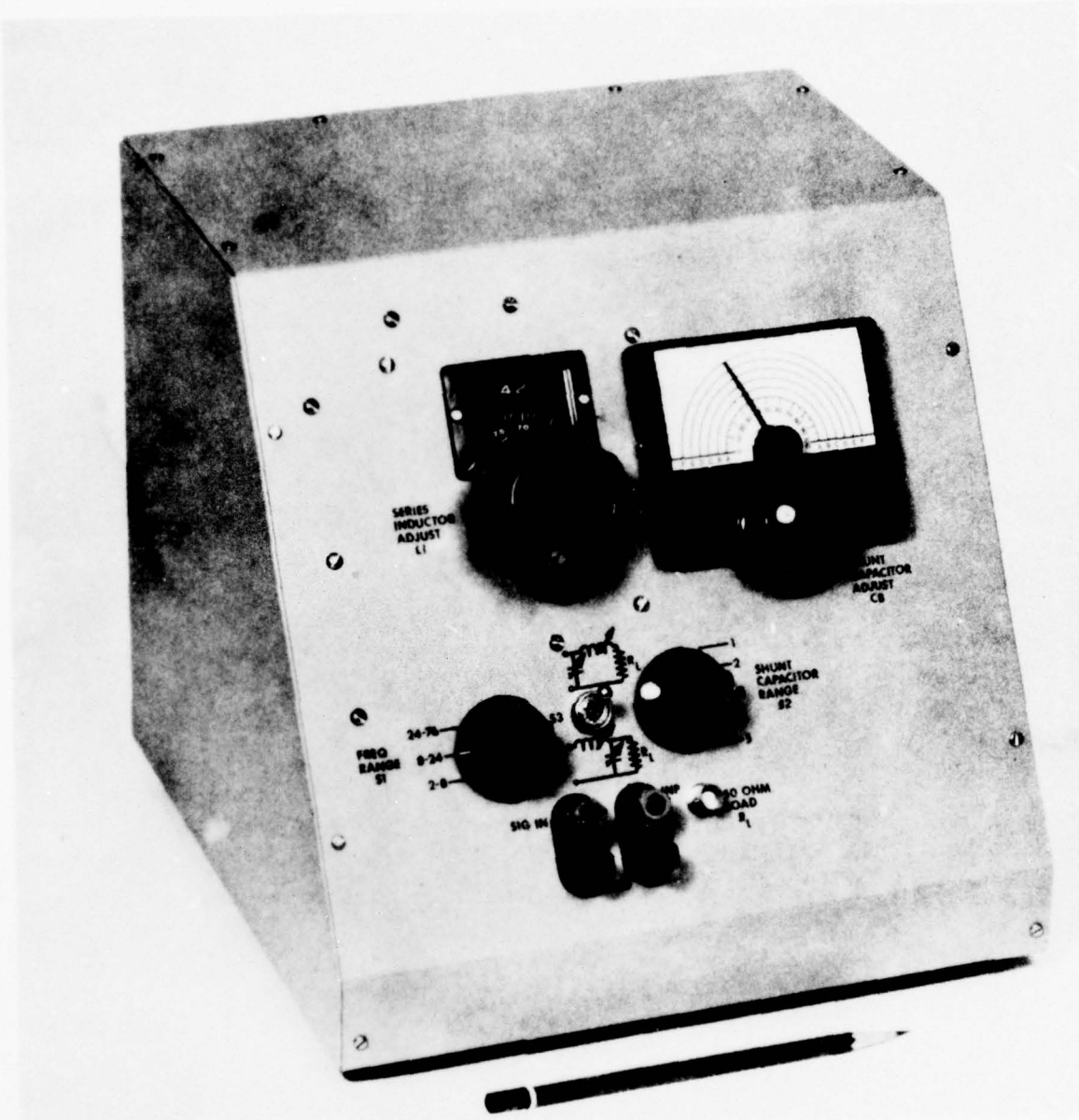


Figure 20 Dummy Antenna Load

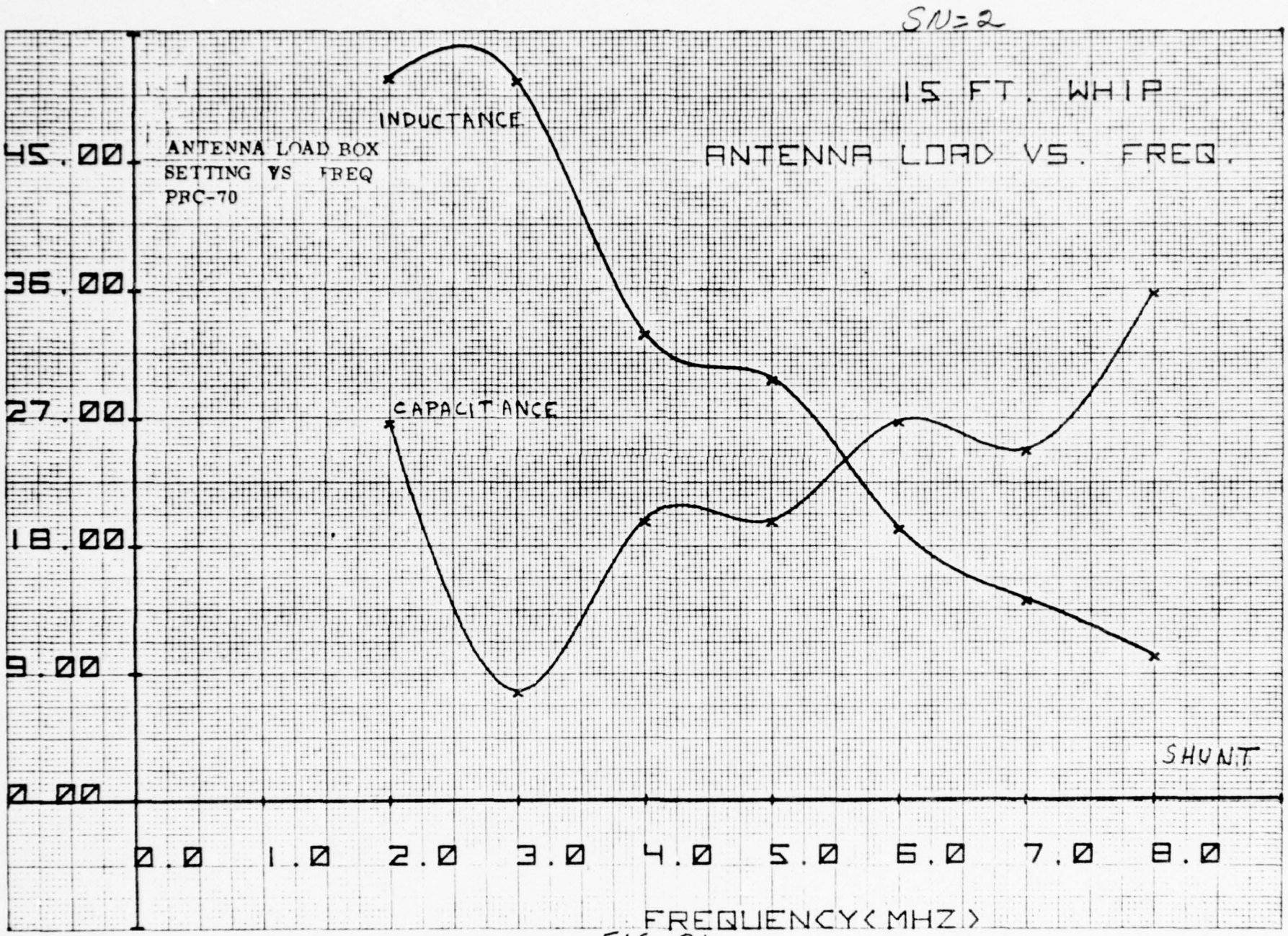


FIG. 21

SN=2

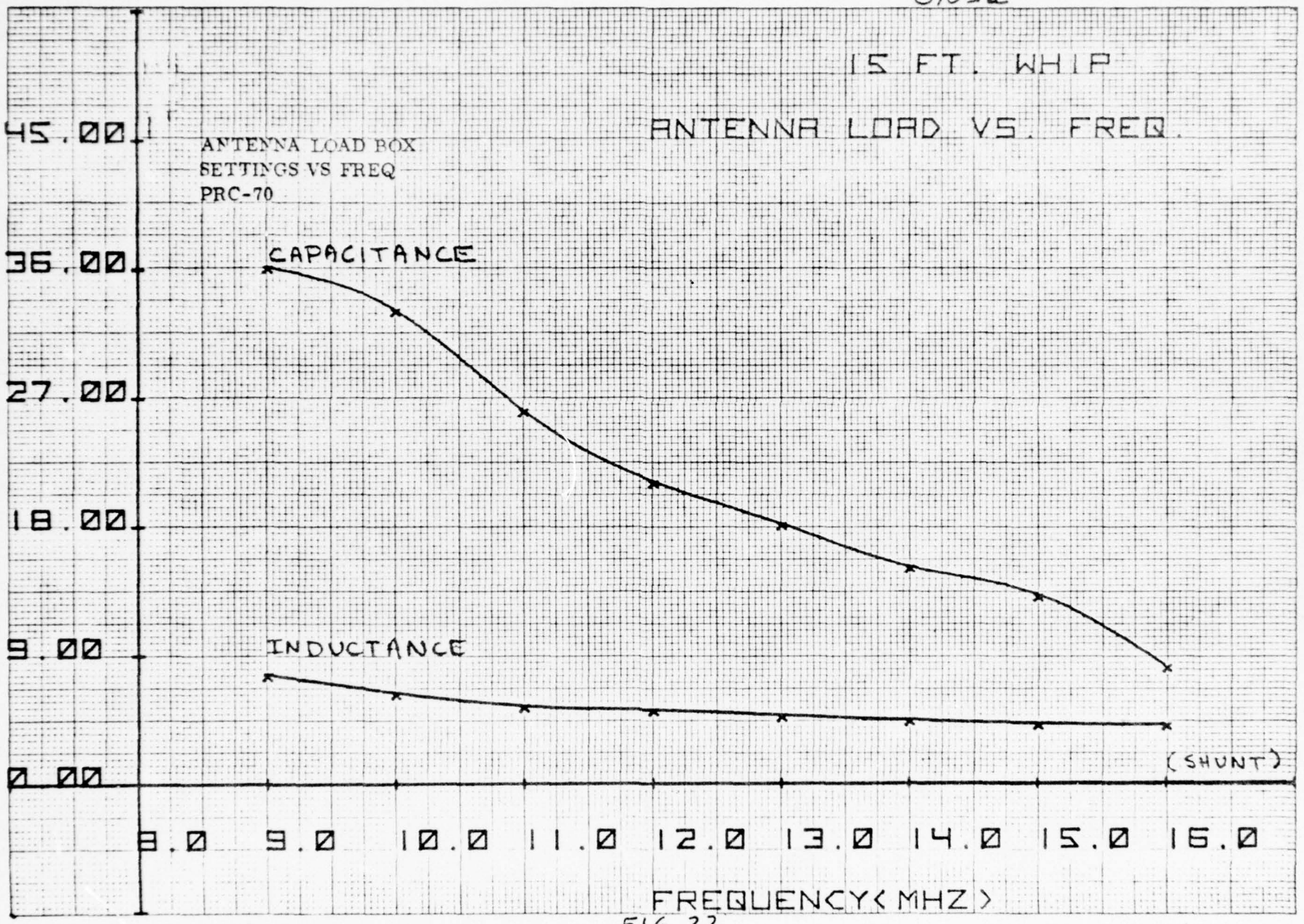

15 FT. WHIP
ANTENNA LOAD VS. FREQ.
ANTENNA LOAD BOX
SETTINGS VS FREQ
PRC-70
CAPACITANCE
INDUCTANCE
(SHUNT)
45.00
36.00
27.00
18.00
9.00
0.00
8.0
9.0
10.0
11.0
12.0
13.0
14.0
15.0
16.0
FREQUENCY (MHZ)

FIG 22

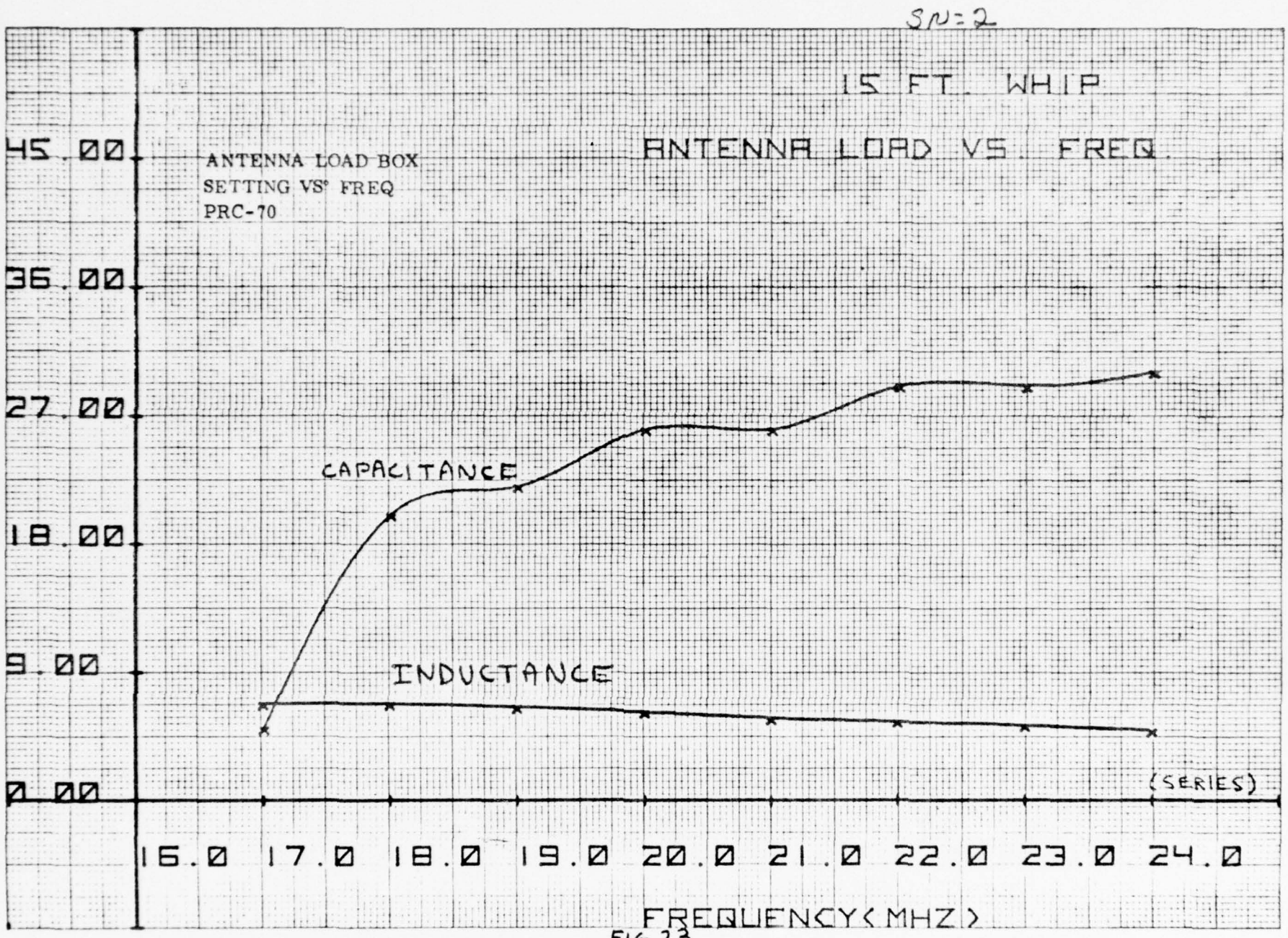

SN=2
15 FT. WHIP
ANTENNA LOAD VS. FREQ.
ANTENNA LOAD BOX
SETTING VS° FREQ
PRC-70
45.00
36.00
27.00
18.00
9.00
0.00
CAPACITANCE
INDUCTANCE
(SERIES)
16.0 17.0 18.0 19.0 20.0 21.0 22.0 23.0 24.0
FREQUENCY(MHZ)

FIG 23

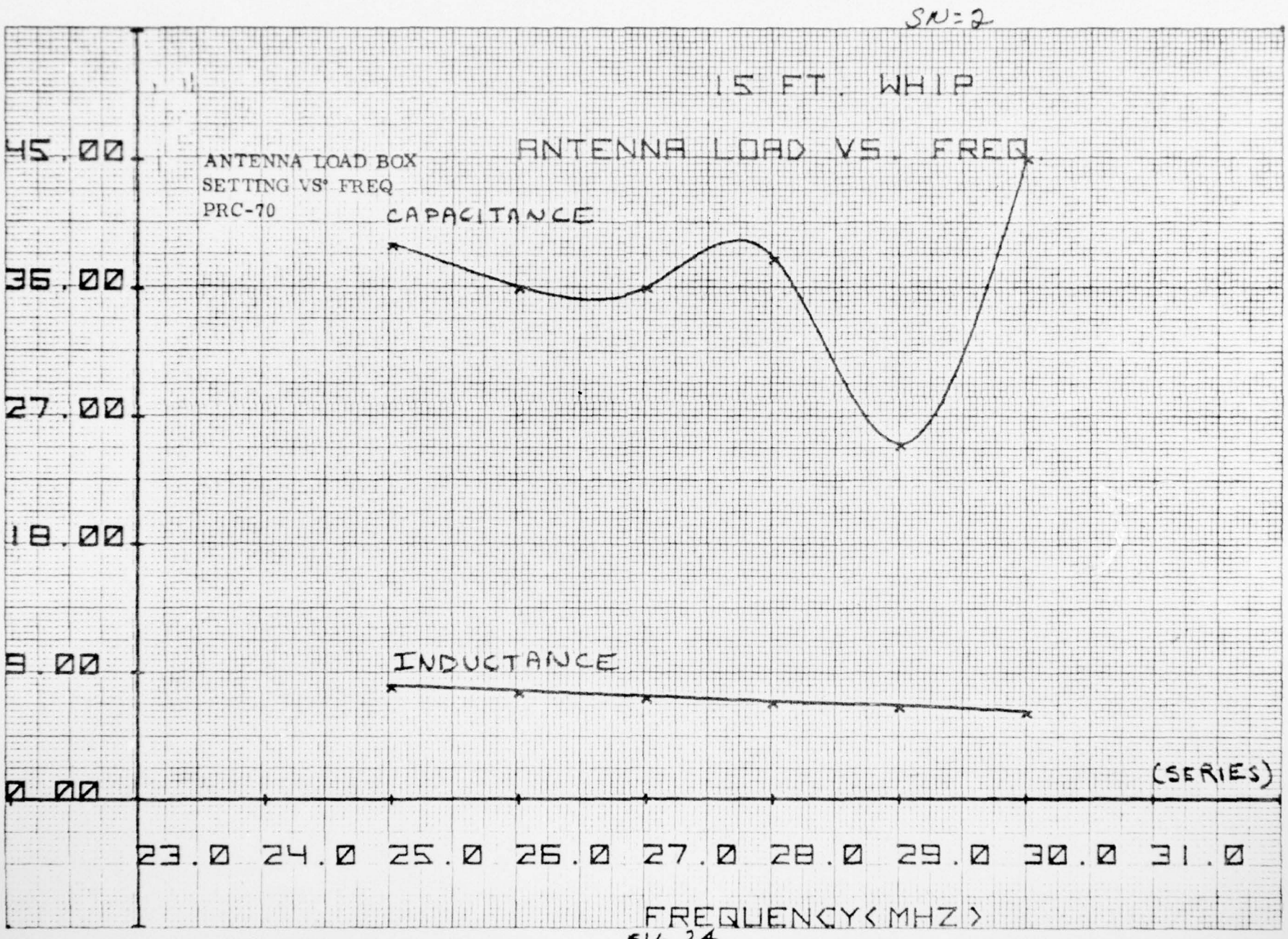

SN=2
15 FT. WHIP
ANTENNA LOAD VS. FREQ.
ANTENNA LOAD BOX
SETTING VS° FREQ
PRC-70
CAPACITANCE
INDUCTANCE
(SERIES)
45.00
36.00
27.00
18.00
9.00
0.00
23.0
24.0
25.0
26.0
27.0
28.0
29.0
30.0
31.0
FREQUENCY (MHZ)

FIG 24

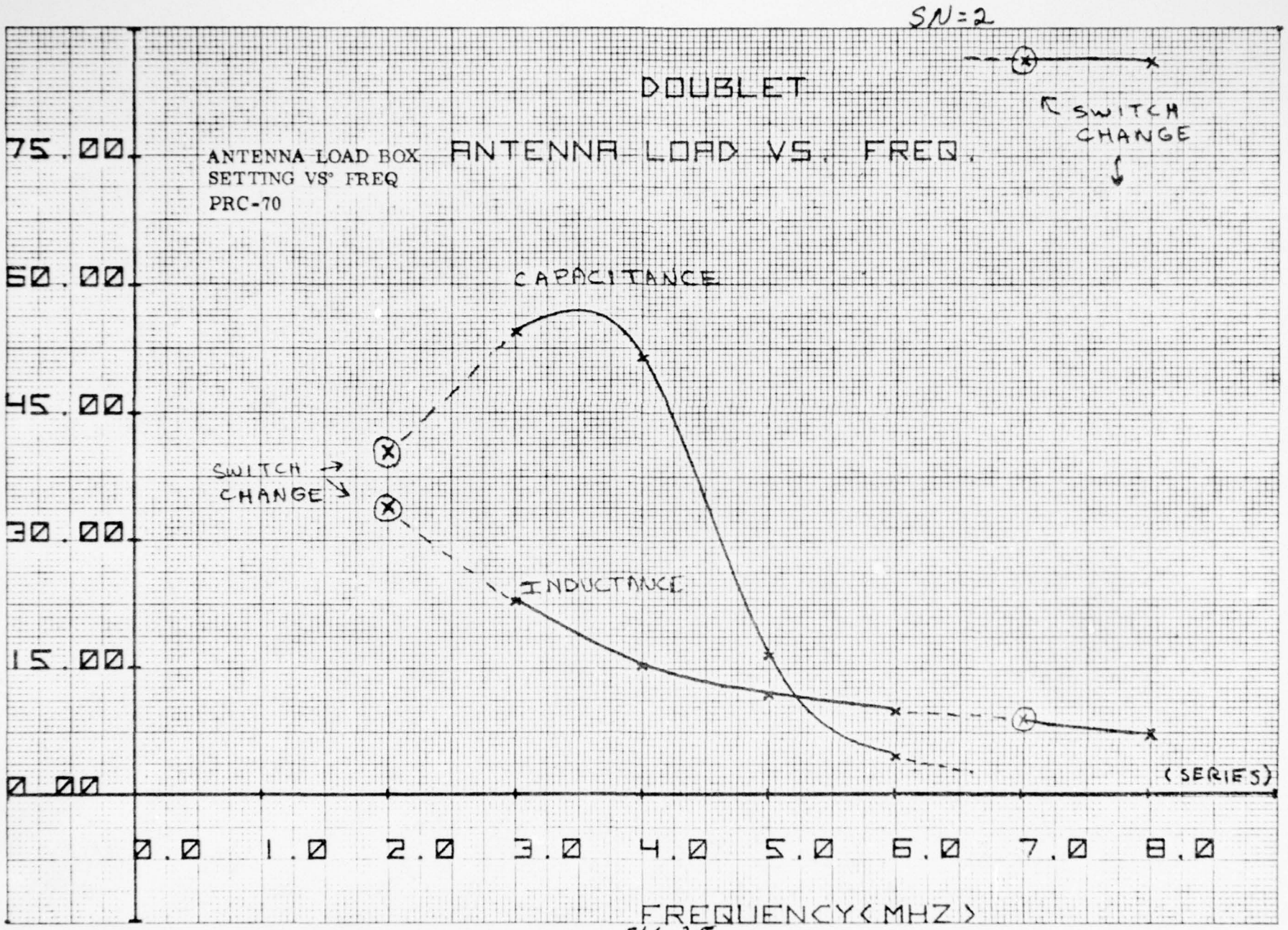

SN=2
DOUBLET
ANTENNA LOAD VS. FREQ.
ANTENNA LOAD BOX SETTING VS° FREQ
PRC-70
SWITCH CHANGE
CAPACITANCE
INDUCTANCE
SWITCH CHANGE
(SERIES)
75.00
60.00
45.00
30.00
15.00
0.00
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
FREQUENCY(MHZ)

FIG 25

SN=2

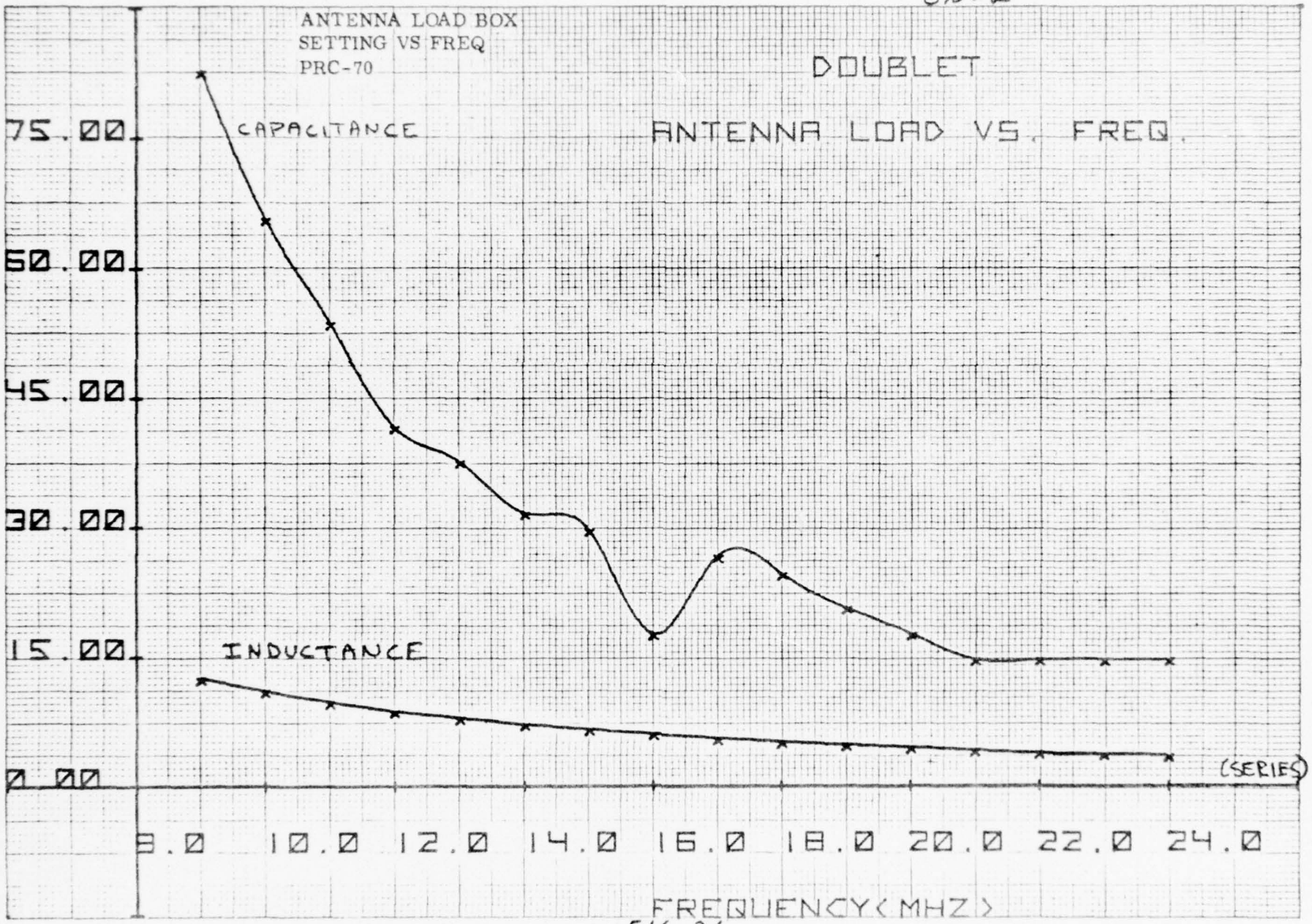


FIG 26

SN=2

DOUBLET

ANTENNA LOAD VS. FREQ.

ANTENNA LOAD BOX
SETTING VS° FREQ
PRC-70

75.00
60.00
45.00
30.00
15.00
0.00

CAPACITANCE

INDUCTANCE

(SERIES)

23.0 24.0 25.0 26.0 27.0 28.0 29.0 30.0 31.0

FREQUENCY (MHZ)

FIG 27

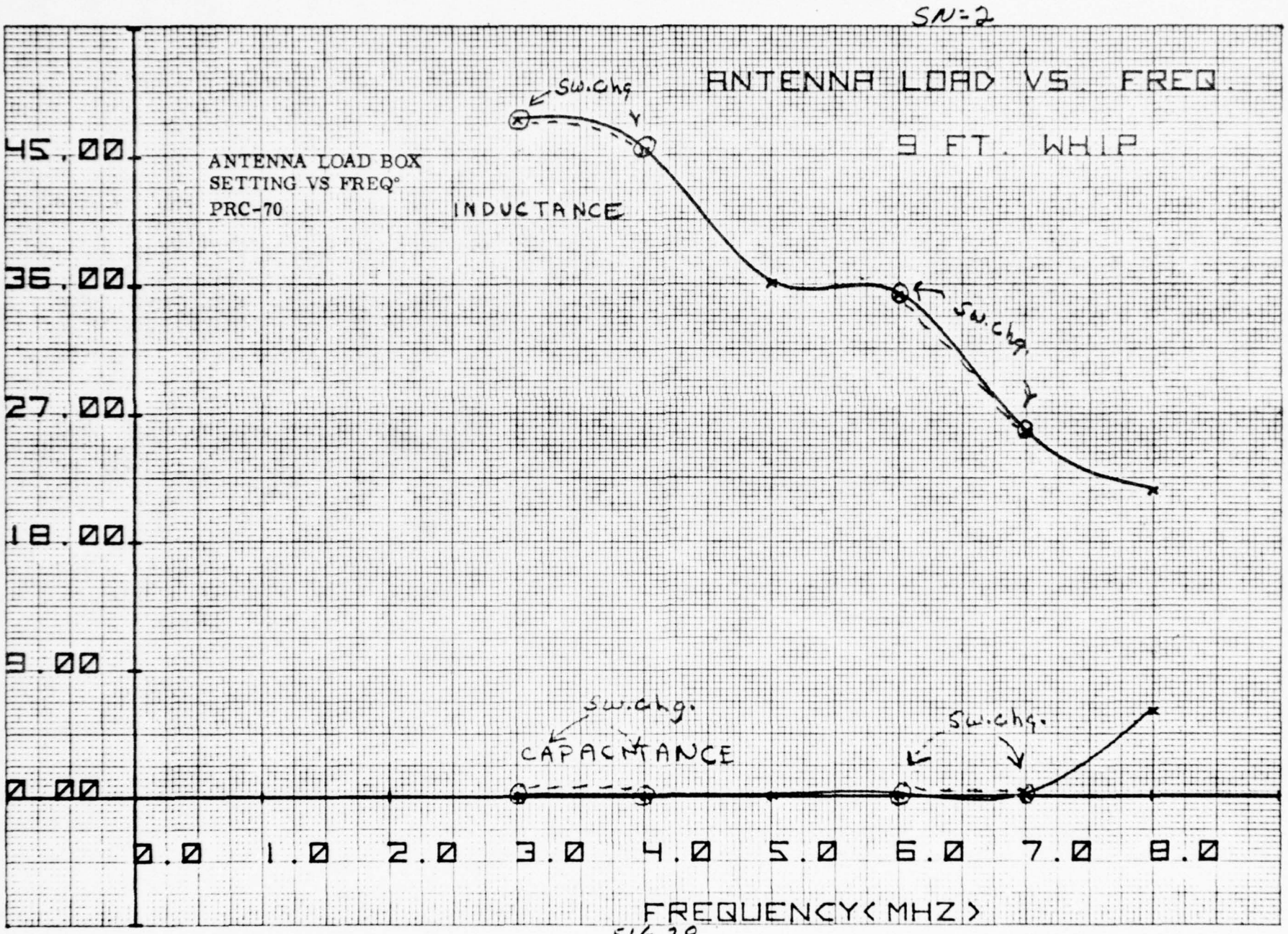

SN:2
ANTENNA LOAD VS. FREQ.
9 FT. WHIP
ANTENNA LOAD BOX
SETTING VS FREQ°
PRC-70
INDUCTANCE
CAPACITANCE
sw.chg.
sw.chg.
sw.chg.
sw.chg.
45.00
36.00
27.00
18.00
9.00
0.00
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
FREQUENCY(MHZ)

FIG 28

SN=2

- - - - - = Switch Change

300 FT. Long Wire

100.0
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0

H
C

14.0 16.0 18.0 20.0 22.0 24.0 26.0 28.0 30.0

Frequency <MHZ>

FIG 29

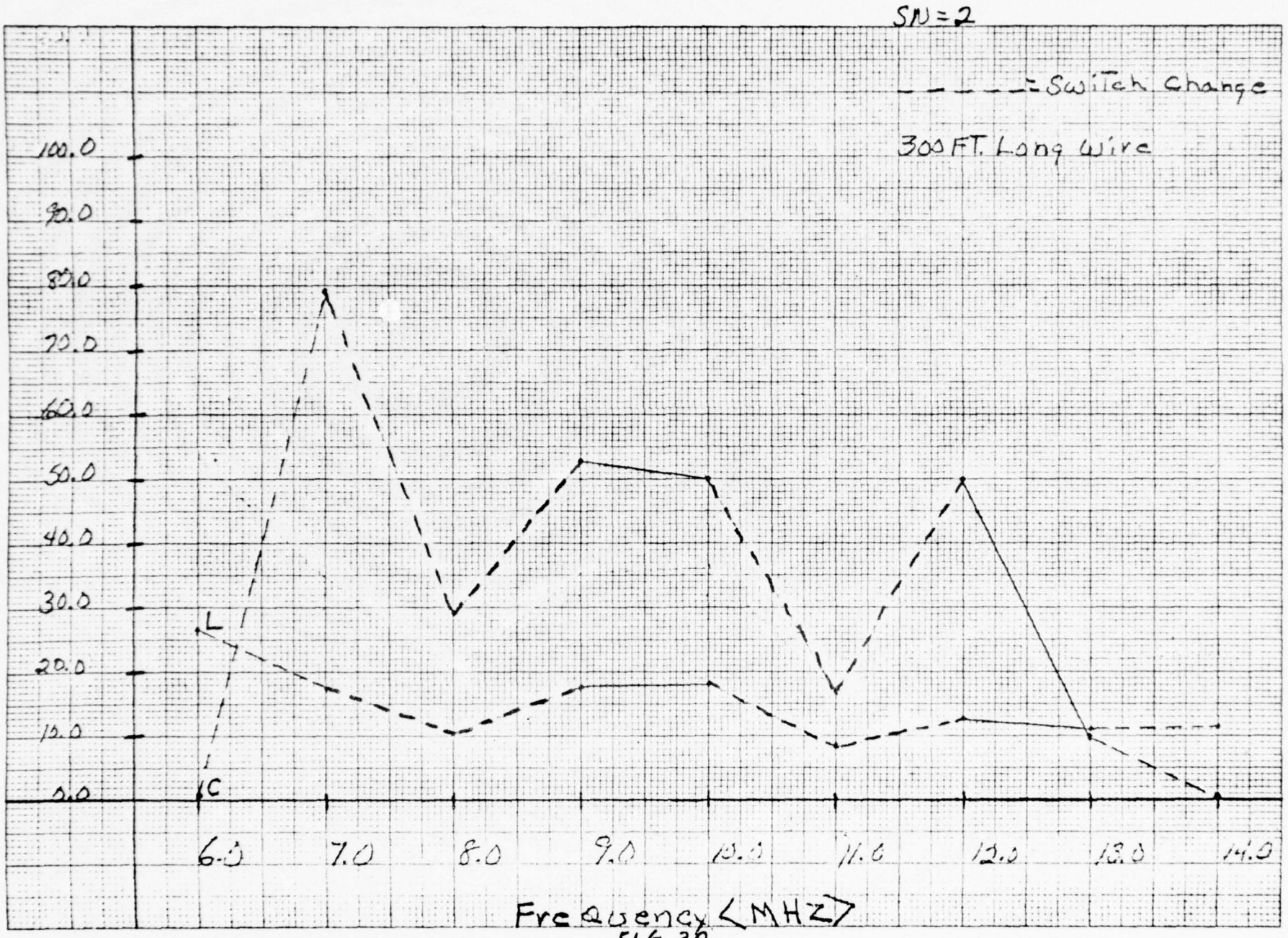


FIG 36

SN=2

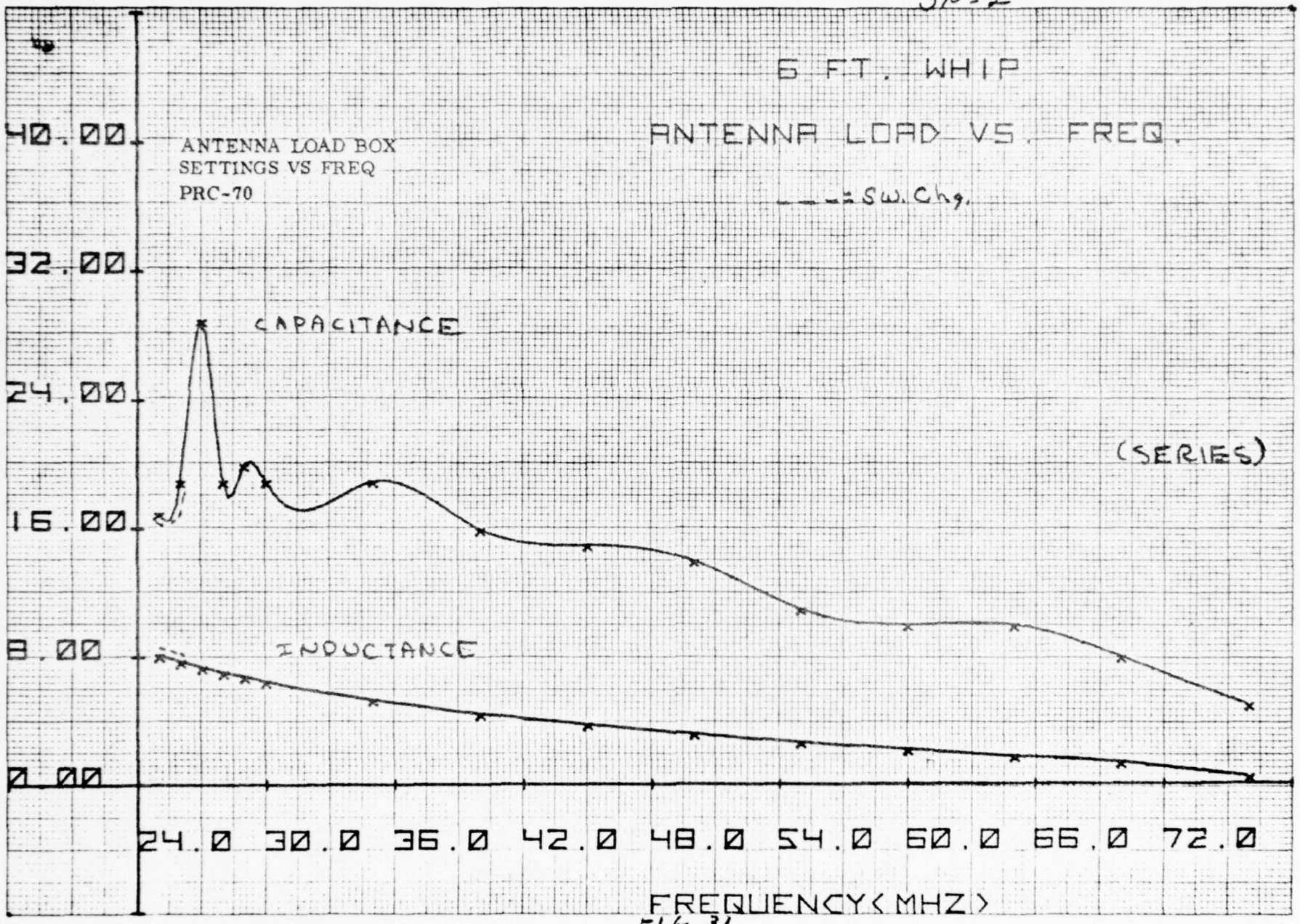


FIG 31

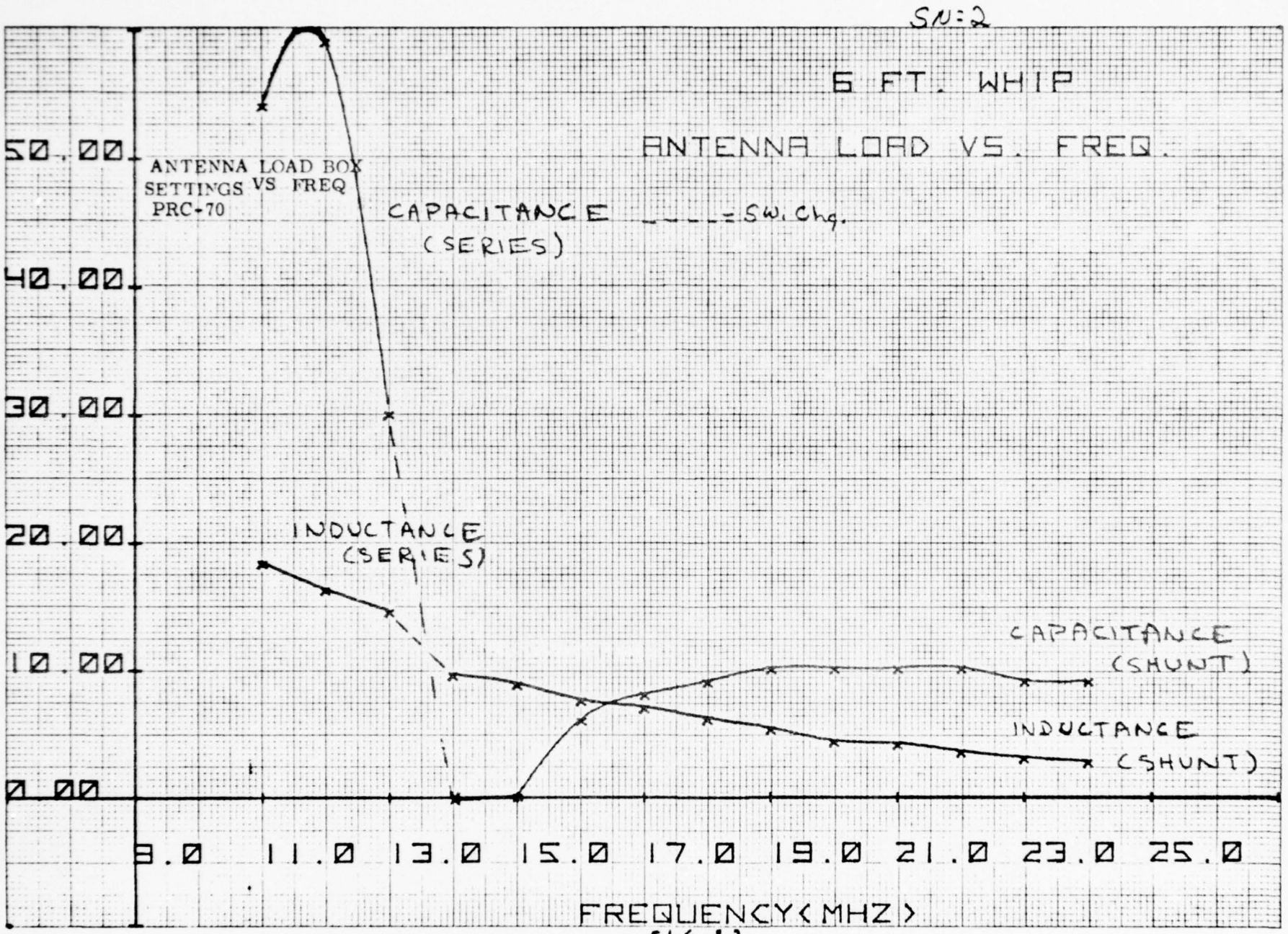

SN:2
6 FT. WHIP
ANTENNA LOAD VS. FREQ.
ANTENNA LOAD BOX SETTINGS VS FREQ PRC-70
CAPACITANCE ____ = SW. Chg.
(SERIES)
50.00
40.00
30.00
20.00
10.00
0.00
INDUCTANCE (SERIES)
CAPACITANCE (SHUNT)
INDUCTANCE (SHUNT)
9.0 11.0 13.0 15.0 17.0 19.0 21.0 23.0 25.0
FREQUENCY (MHZ)

FIG 32

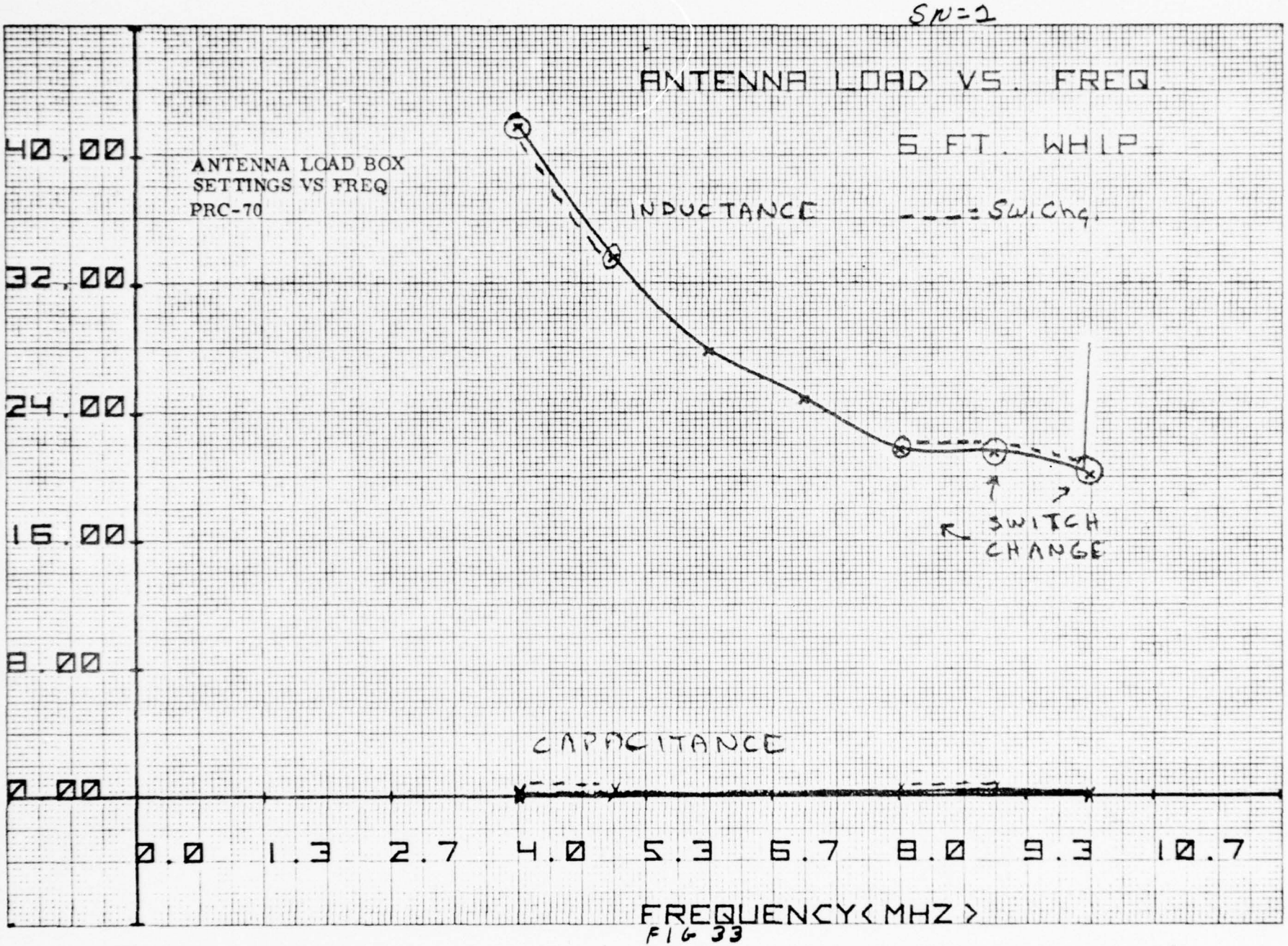

SN=2
ANTENNA LOAD VS. FREQ.
5 FT. WHIP
ANTENNA LOAD BOX
SETTINGS VS FREQ
PRC-70
INDUCTANCE
---=Sw. Chg.
40.00
32.00
24.00
16.00
8.00
0.00
SWITCH CHANGE
CAPACITANCE
0.0
1.3
2.7
4.0
5.3
6.7
8.0
9.3
10.7
FREQUENCY (MHZ)

FIG 33

SN=2

9 FT. WHIP

ANTENNA LOAD VS. FREQ.

ANTENNA LOAD BOX
SETTINGS VS FREQ
PRC-70

45.00
36.00
27.00
18.00
9.00
0.00

CAPACITANCE

INDUCTANCE

(SERIES)

24.0 30.0 36.0 42.0 48.0 54.0 60.0 66.0 72.0

FREQUENCY (MHZ)

FIG 34

SN=2

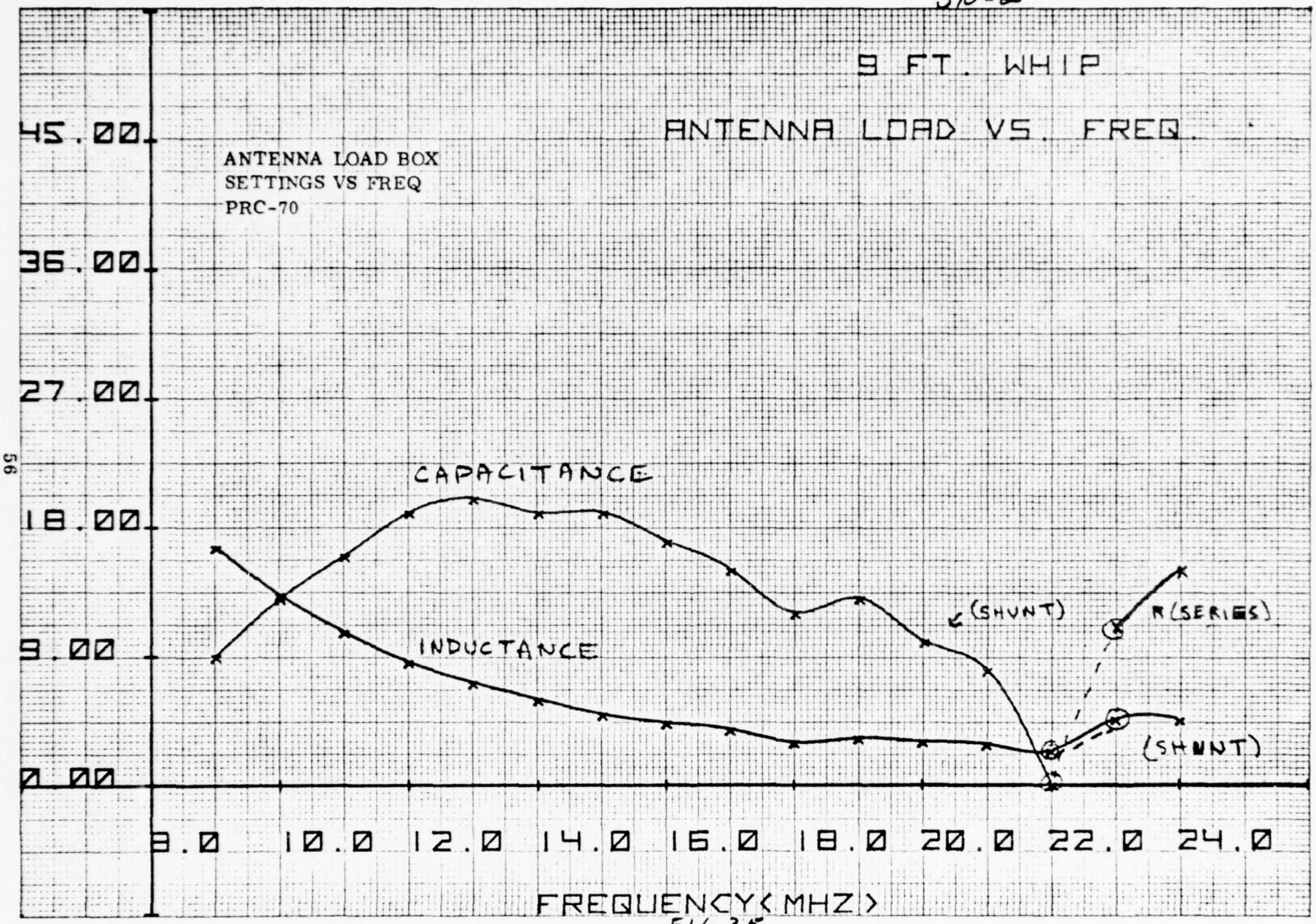


FIG 35

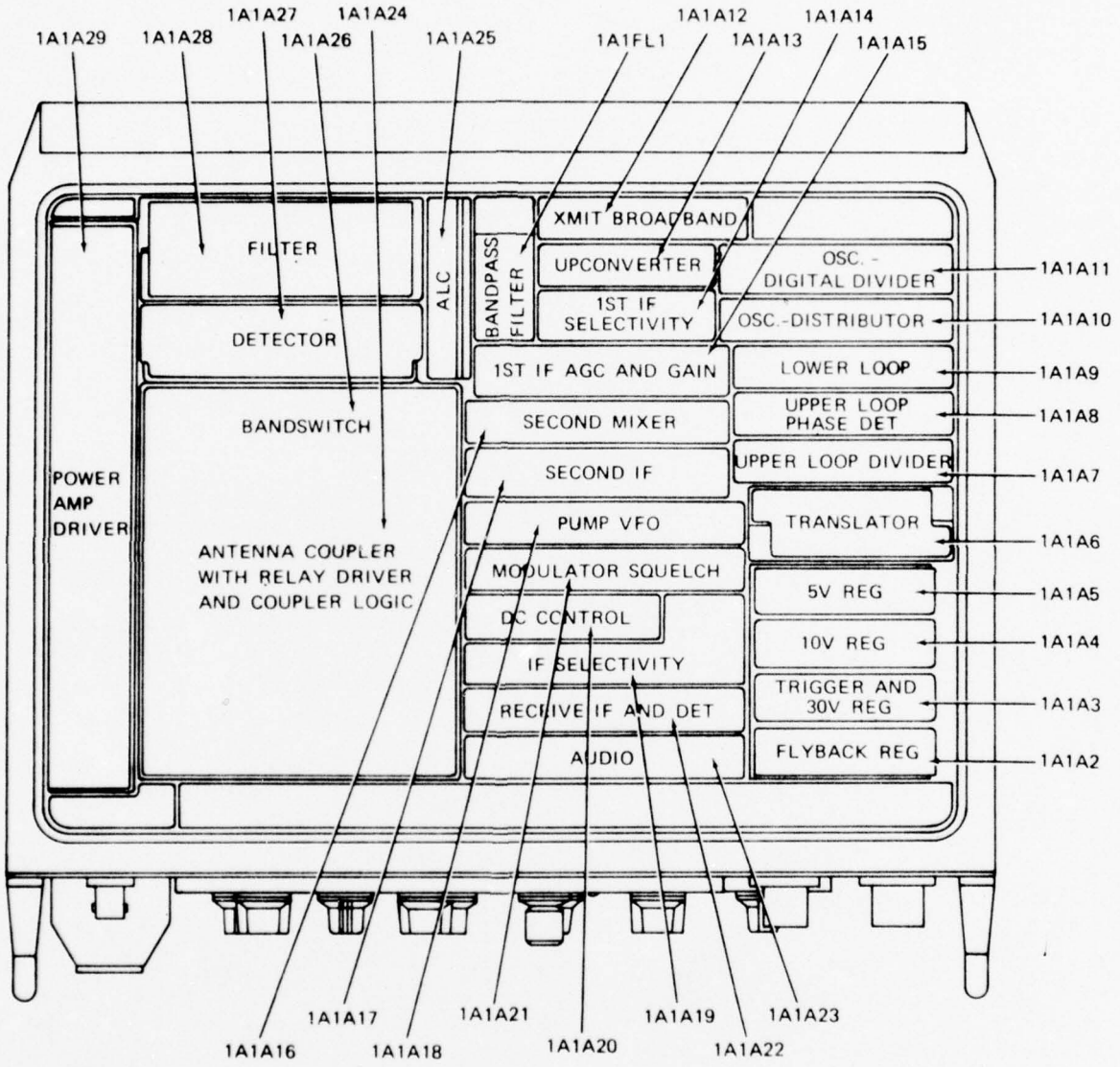


Figure 36 Module locations

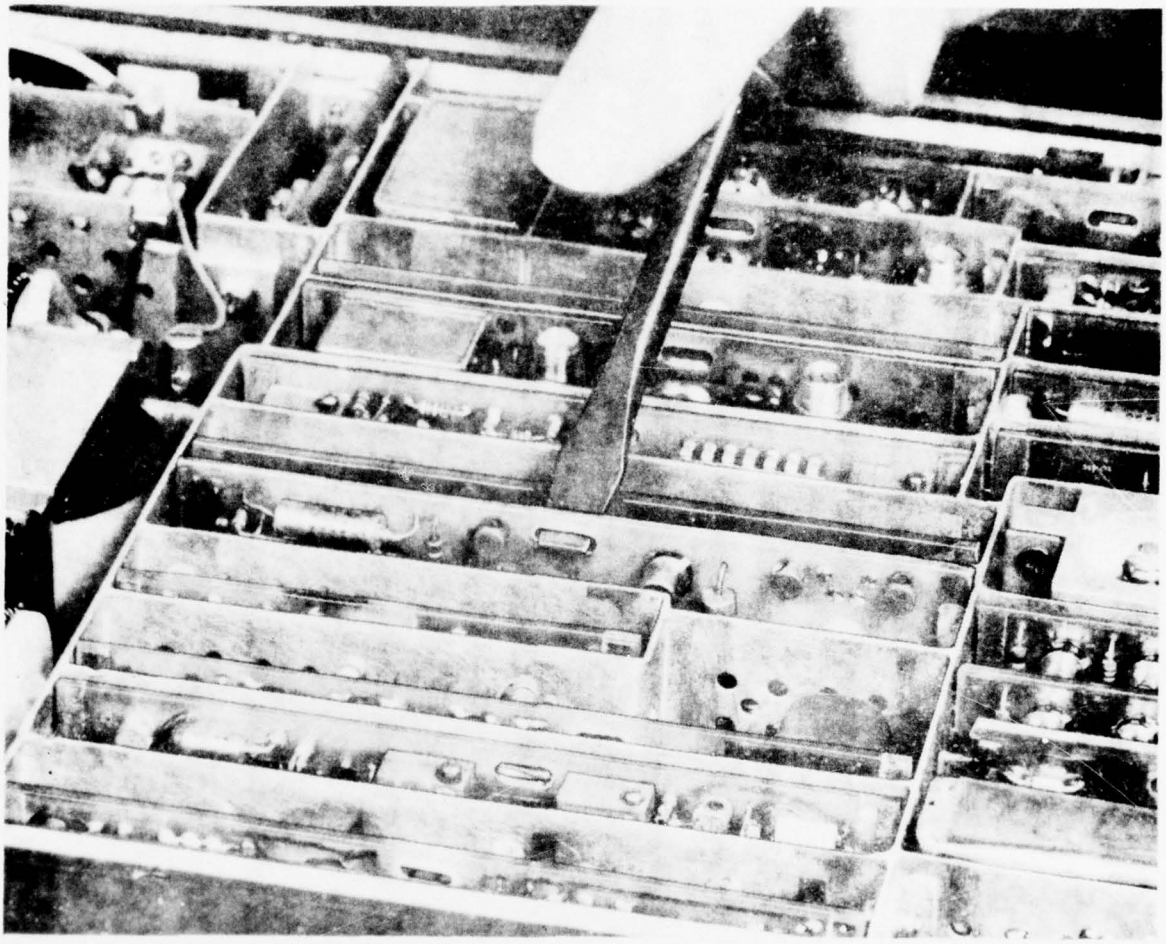


Figure 37 Module removal

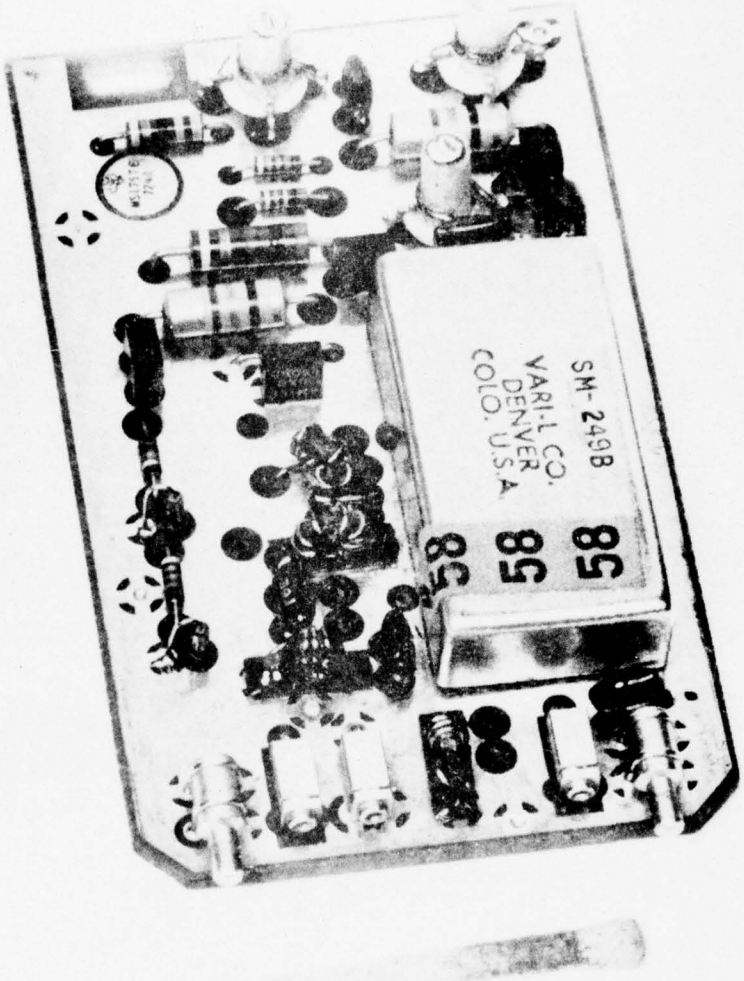


Figure 38 Upconverter Module (1A1A13)

TABLES

TABLE 1. ANTENNA MATCHING

Frequency (MHz)	6 Foot Whip	9 Foot Whip	15 Foot Whip	Doublet Ant	Long Wire 300 Foot
2.0			Y	Y[b]	
3.0		Y	Y	Y	
4.0	Y	Y	Y	Y	
5.0	Y	Y	Y	Y	
6.0	Y	Y	Y	Y	Y
7.0	Y	Y	Y	Y	Y
8.0	Y	Y	Y	Y	Y
9.0	Y	Y	Y	Y	Y
10.0	Y	Y	Y	Y	Y
11.0	Y	Y	Y	Y	Y
12.0	Y	Y	Y	Y	Y
13.0	Y	Y	Y	Y	Y
14.0	Y	Y	Y	Y	Y
15.0	Y	Y	Y	Y	Y
16.0	Y	Y	Y	Y	Y
17.0	Y	Y	Y	Y	Y
18.0	Y	Y	Y	Y	Y
19.0	Y	Y	Y	Y	Y
20.0	N[a]	Y	Y	Y	Y
21.0	Y	Y	Y	Y	Y
22.0	Y	Y	Y	Y	Y
23.0	Y	Y	Y	Y	Y
24.0	Y	Y	Y	Y	Y
25.0	Y	Y	Y	Y	Y
26.0	Y	Y	Y	Y	Y
27.0	Y	Y	Y	Y	Y
28.0	Y	Y	Y	Y	Y
29.0	Y	Y	Y	Y	Y
30.0	Y	Y	Y	Y	Y
31.0	Y	Y			
32.0	Y	Y			
33.0	Y	Y			
34.0	Y	Y			
35.0	Y	Y			
36.0	Y	Y			
37.0	Y	Y			

(a) N = no
(b) Y = yes

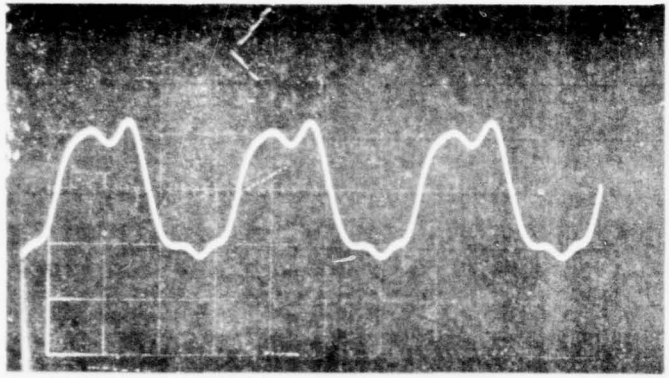
TABLE 1. ANTENNA MATCHING - CONT

Frequency (MHz)	6 Foot Whip	9 Foot Whip	15 Foot Whip	Doublet Ant	Long Wire 300 Foot
38.0	Y	Y			
39.0	Y	Y			
40.0	Y	Y			
41.0	Y	Y			
42.0	Y	Y			
43.0	Y	Y			
44.0	Y	Y			
45.0	Y	Y			
46.0	Y	Y			
47.0	Y	Y			
48.0	Y	Y			
49.0	Y	Y			
50.0	Y	Y			
51.0	Y	Y			
52.0	Y	Y			
53.0	Y	Y			
54.0	Y	Y			
55.0	Y	Y			
56.0	Y	Y			
57.0	Y	Y			
58.0	Y	Y			
59.0	Y	Y			
60.0	Y	Y			
61.0	Y	Y			
62.0	Y	Y			
63.0	Y	Y			
64.0	Y	Y			
65.0	Y	Y			
66.0	Y	Y			
67.0	Y	Y			
68.0	Y	Y			
69.0	Y	Y			
70.0	Y	Y			
71.0	Y	Y			
72.0	Y	Y			
73.0	Y	Y			
74.0	Y	Y			
75.0	Y	Y			
76.0	Y	Y			

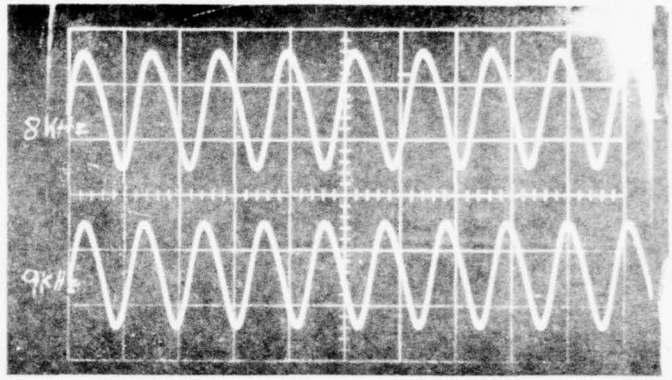
TABLE 2. SYSTEM RESPONSE VS. PULSE REPETITION RATE

PRC-70

FM-5.6 KHZ

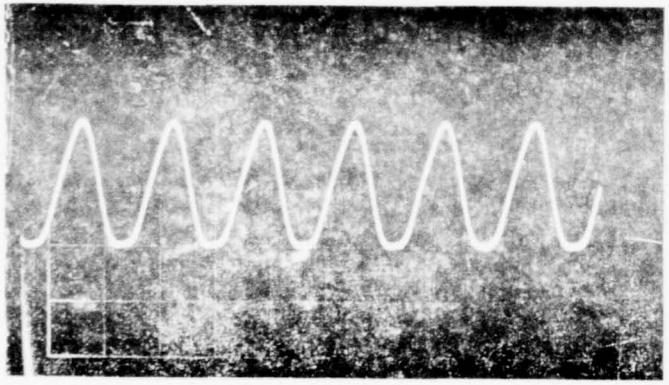


PULSE RATE - 3.0 KHZ

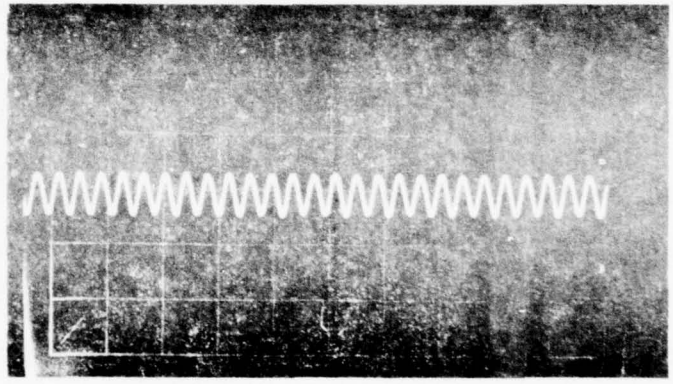


PULSE RATE - 8.0 KHZ

PULSE RATE - 9.0 KHZ



PULSE RATE - 6.0 KHZ



PULSE RATE - 13.0 KHZ

TABLE 3 TYPICAL AUDIO DISTORTION

SSB Mode 1 kHz Tone

Audio Frequency Hz	Input Level (uv)				
	30	300	3000	30,000	300,000
500	2.7%	2.7%	2.8%	2.9%	2.9%
1000	3%	3%	3.1%	3.3%	3.4%
3000	1%	1%	1%	1%	1%
Limits (max)	3%	3%	3%	3%	3%

AM Mode 30% Modulation 1 kHz Tone

Audio Frequency Hz	Input Level (uv)				
	30	300	3000	30,000	300,000
500	2%	1.5%	1.5%	1.4%	6.7%
1000	2%	1.4%	1.4%	1.5%	7.7%
3000	2.4%	1.6%	1.7%	1%	1%
Limits (max)	3%	3%	3%	3%	3%

FM Mode ± 8 kHz Deviation 1 kHz Tone

Audio Frequency Hz	Input Level (uv)				
	30	300	3000	30,000	300,000
500	1.6%	1.6%	1.6%	1.6%	1.8%
1000	2.7%	3%	3.1%	3%	3.8%
3000	1.2%	1.1%	1%	1%	1.1%
Limits (max)	7%	7%	7%	7%	7%

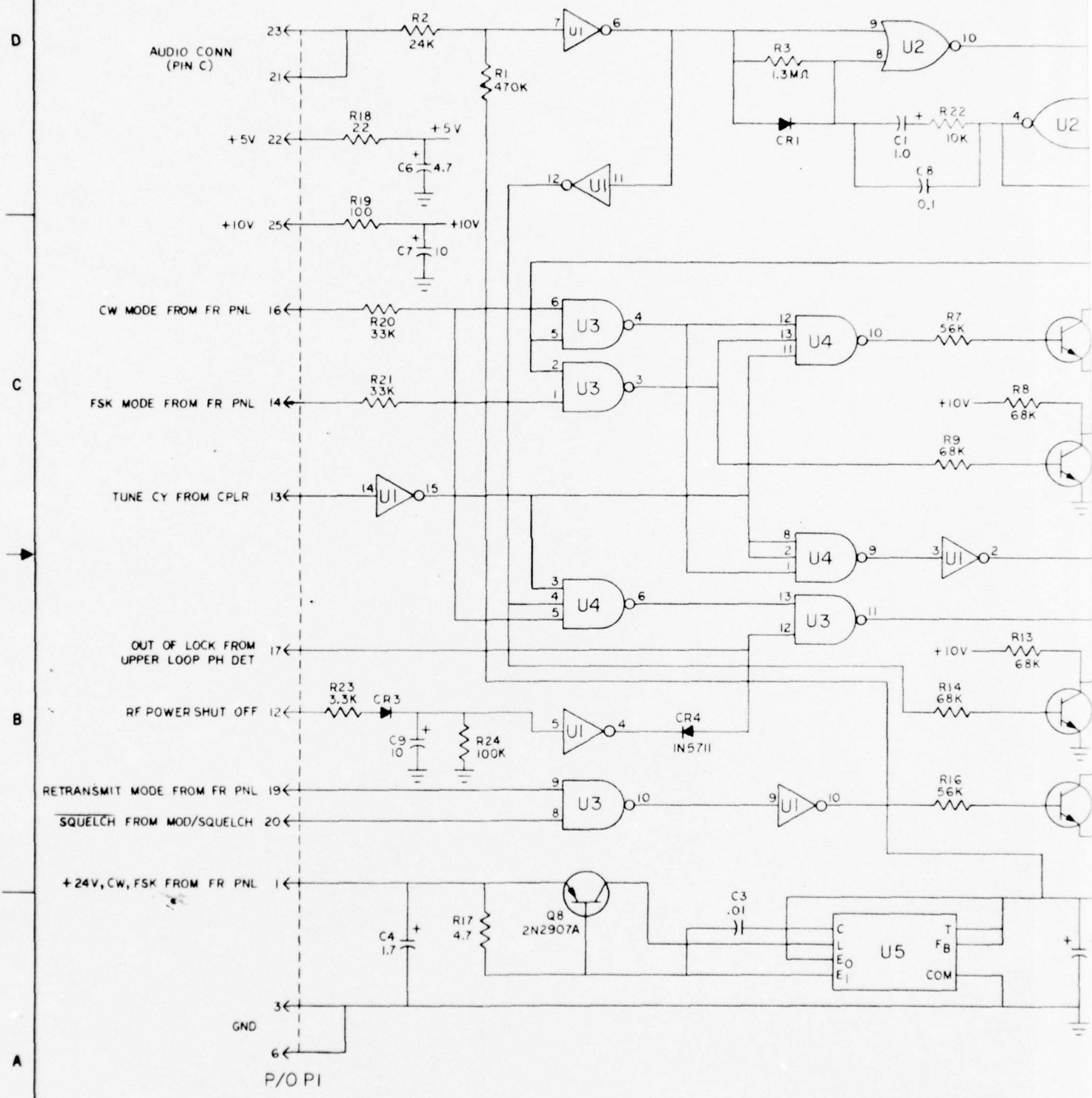
TABLE 5 . TRANSMIT INTERMODULATION DISTORTION

Frequency (MHz)	3rd Order IM	5th Order IM	Carrier Suppression	Hum & Noise	Lower Sideband
2.051	38 / 40	44 / 35	57 / 55	45 / 45	60 / 60
3.450	32 / 32	44 / 40	53 / 53	45 / 45	60 / 60
4.678	35 / 30	43 / 40	50 / 52	45 / 45	60 / 60
9.895	35 / 32	40 / 42	50 / 50	45 / 45	60 / 60
12.550	34 / 30	40 / 46	55 / 55	45 / 45	60 / 60
19.400	38 / 29	40 / 40	50 / 52	45 / 45	60 / 60
26.428	35 / 36	36 / 35	50 / 50	45 / 45	60 / 60
35.126	38 / 30	36 / 37	50 / 50	45 / 45	60 / 60
51.350	36 / 32	34 / 32	50 / 50	45 / 45	60 / 60
65.750	28 / 29	34 / 30	50 / 50	45 / 45	60 / 60
Limits (max.)	25 dB Below Output Tones	25 dB Below Output Tones	45 dB Below PEP	40 dB Below Output Tones	50 dB Below Output Tones

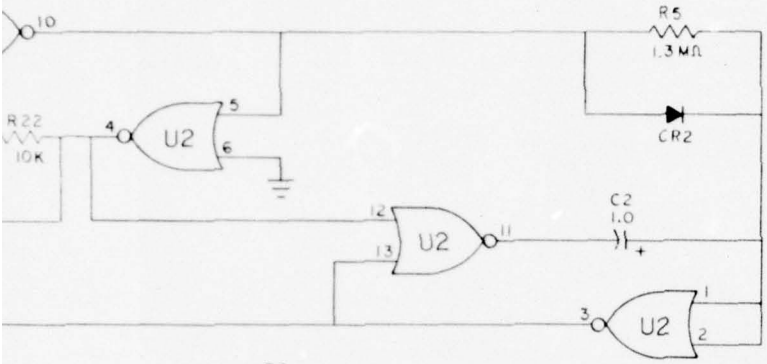
TABLE 6 ANTENNA MATCHING (LOADS)

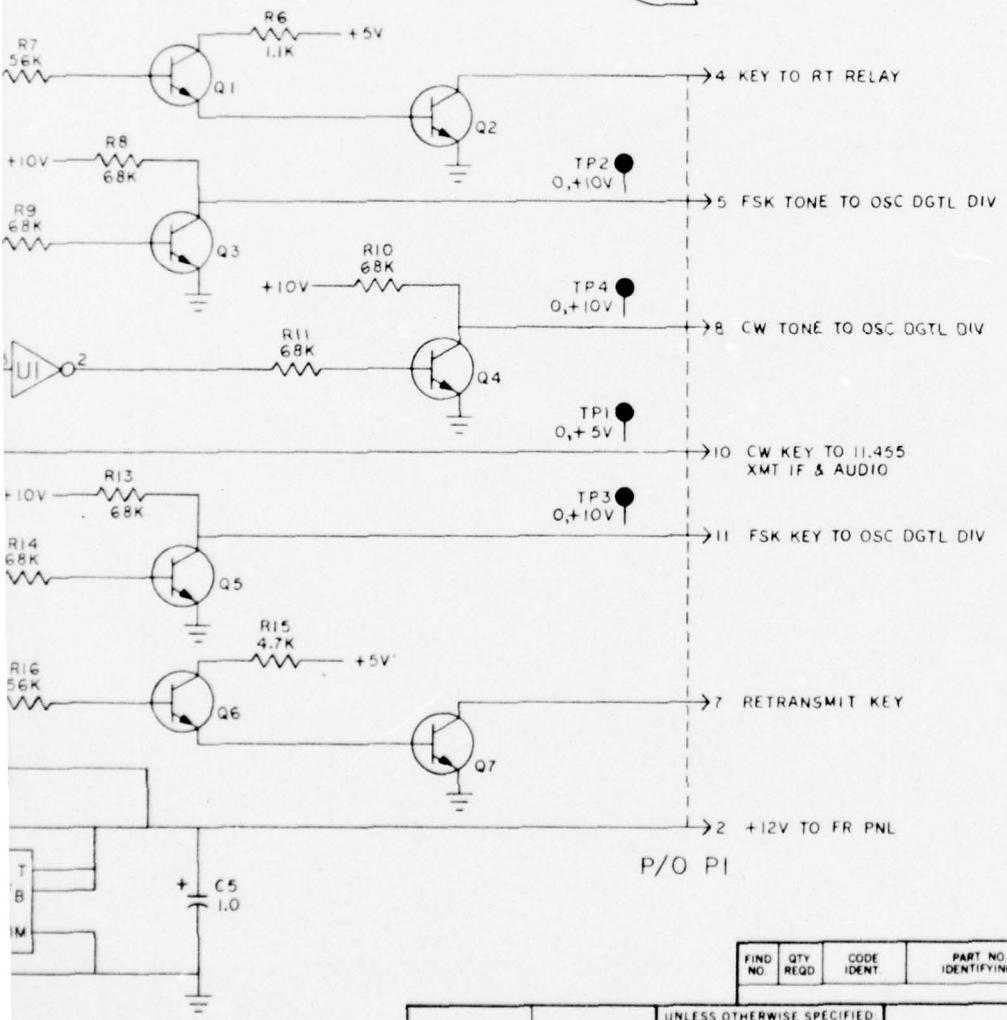
Freq. (MHz)	6' Whip			9' Whip			15' Whip			Doublet			300' Long Wire		
	R / X	Tune	No Tune	R / X	Tune	No Tune	R / X	Tune	No Tune	R / X	Tune	No Tune	R / X	Tune	No Tune
2.0510							50 / -150	✓		40 / +40	✓				
3.5020				70 / -1500	✓		75 / -700	✓		45 / +65	✓				
5.6600	40 / -1400	✓		40 / -700	✓		40 / -260	✓		36 / -10	✓				
8.1000	80 / -700	✓		60 / -340	✓		100 / -100	✓		35 / +45	✓		140 / -150	✓	
12.5500	50 / -350	✓		90 / -120	✓		80 / -28	✓		30 / +18	✓		500 / -200	✓	
19.4000	120 / -100	✓		60 / -33	✓		200 / +50	✓		38 / +70	✓		250 / 0	✓	
29.9999	150 / -30	✓		200 / +30	✓		600 / -200	✓		30 / +40	✓		430 / +130	✓	
36.7777	100 / -15	✓		150 / +100	✓										
50.8000	120 / -80	✓		300 / +50	✓										
76.9000	250 / -245	✓		110 / -110	✓										

NOTE
DATA MARKED WITH AN ASTERISK (*) IS PECULIAR TO A PRIOR MANUFACTURER. IT DOES NOT TAKE PRECEDENCE OVER ANY OTHER DATA ON THIS DRAWING, AND IS NOT CONTRACTUALLY BINDING ON EITHER THE CONTRACTOR OR THE GOVERNMENT.



REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
-	B	REDRAWN W/O CHG. CW NOTE NMF	5APR74	
	C	ADDED R22 & C8	26NOV74	
	D	ADDED PIN 12, R23, R24, CR3, CR4, C9 & UNUSED PORTION OF U1 ON F316	29JULY75	





NOTES:

1. COMPONENT VALUES ARE IN OHMS, MICROFARADS, OR MICROHENRIES UNLESS OTHERWISE SPECIFIED.
2. PREFIX REF DESIGNATION OF PART WITH UNIT NO. TO COMPLETE LOCATIONAL REF DESIGNATION.
3. ALL TRANSISTORS ARE TYPE 2N2222A. ALL DIODES TYPE 1N4148 UNLESS OTHERWISE SPECIFIED.
4. INTEGRATED CIRCUITS: +5V (U1) - TERM NO. 1, 16
   (U2-U4) - TERM NO. 14
   GND (U1) - TERM NO. 8
   (U2-U4) - TERM NO. 7

UNIT NO. 1A1A20

FIND NO.	QTY REQD	CODE IDENT	PART NO. OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	NOTE

PARTS LIST

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES ON:
FRACTIONS — DECIMALS — ANGLES —

MATERIAL: —

80045
DAAB07-71-C-0319

U. S. ARMY ELECTRONICS COMMAND
PROCUREMENT AND PRODUCTION DIRECTORATE
FORT MONMOUTH NEW JERSEY 07703

SCHEMATIC DIAGRAM, DC CONTROL

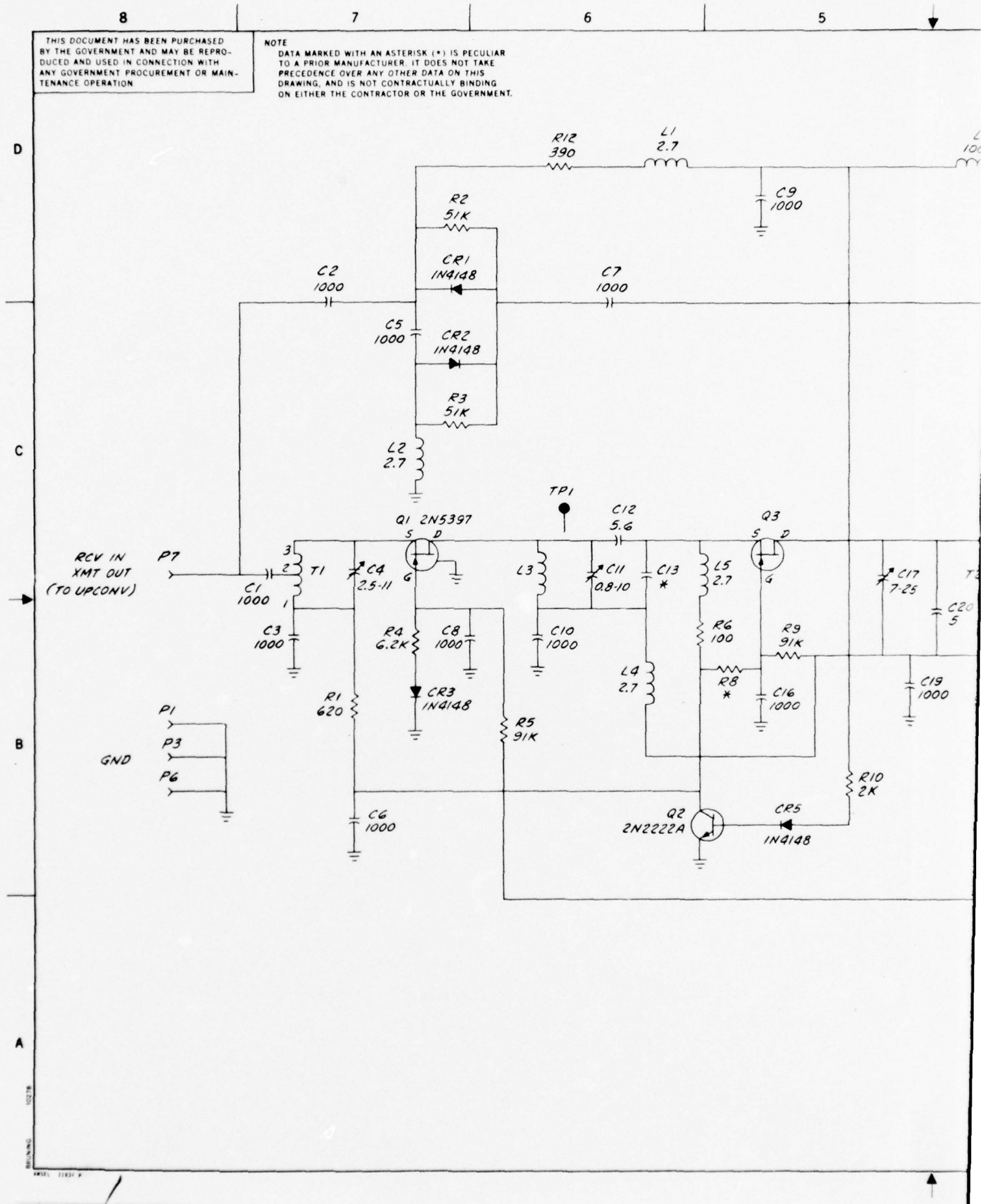
SM-D-745620	DLSM B-746363
NEXT ASSY	USED ON
APPLICATION	

ELECTRONICS COMMAND
REVIEWED
APPROVED
DATE 12 MAY 1975

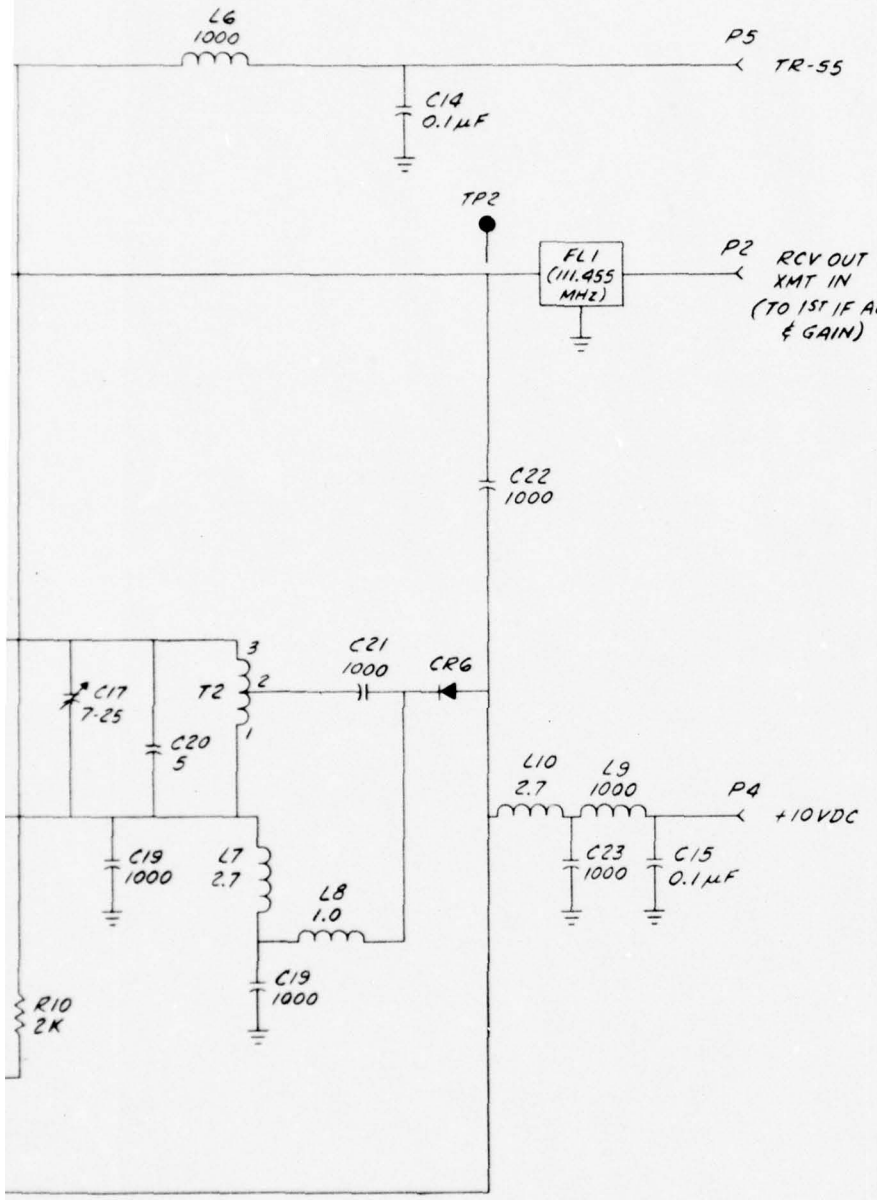
SIZE D | CODE IDENT NO. 80063 | SM-D-745819
SCALE NONE | SHEET

WHEN REFERRING TO THIS DRAWING STATE DRAWING NO., APPLICABLE ISSUE LETTER IF ANY, AND DATE

NOTE
DATA MARKED WITH AN ASTERISK (*) IS PECULIAR TO A PRIOR MANUFACTURER. IT DOES NOT TAKE PRECEDENCE OVER ANY OTHER DATA ON THIS DRAWING, AND IS NOT CONTRACTUALLY BINDING ON EITHER THE CONTRACTOR OR THE GOVERNMENT.



REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
–	E	REDRAWN W/O CHG. CN NONE. WAS	12 JUN 74	
	F	DELETED R13 C/N NONE	20 NOV 74	



NOTES:

1. COMPONENT VALUES ARE IN OHMS, PICOFARADS, OR MICROHENRIES UNLESS OTHERWISE SPECIFIED.
2. PREFIX REF DESIGNATION OF PART WITH UNIT NO. TO COMPLETE LOCATIONAL REF DESIGNATION.
3. * DENOTES SELECT VALUE.

UNIT NO. 1A1A14

FIND NO.	QTY REQD	CODE IDENT.	PART NO. OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	NOTE

PARTS LIST

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES ON:
FRACTIONS DECIMALS ANGLES
— — —

MATERIAL:

SM-D-745617	DL SM-P 746360
NEXT ASSY	USED ON
APPLICATION	

80045
DAAB07-71-C-0319
ELECTRONICS COMMAND

REVIEWED
APPROVED
DATE 12 MAY 1973

U. S. ARMY ELECTRONICS COMMAND
PROCUREMENT AND PRODUCTION DIRECTORATE
FORT MONMOUTH NEW JERSEY 07703

SCHEMATIC DIAGRAM,
FIRST IF SELECTIVITY

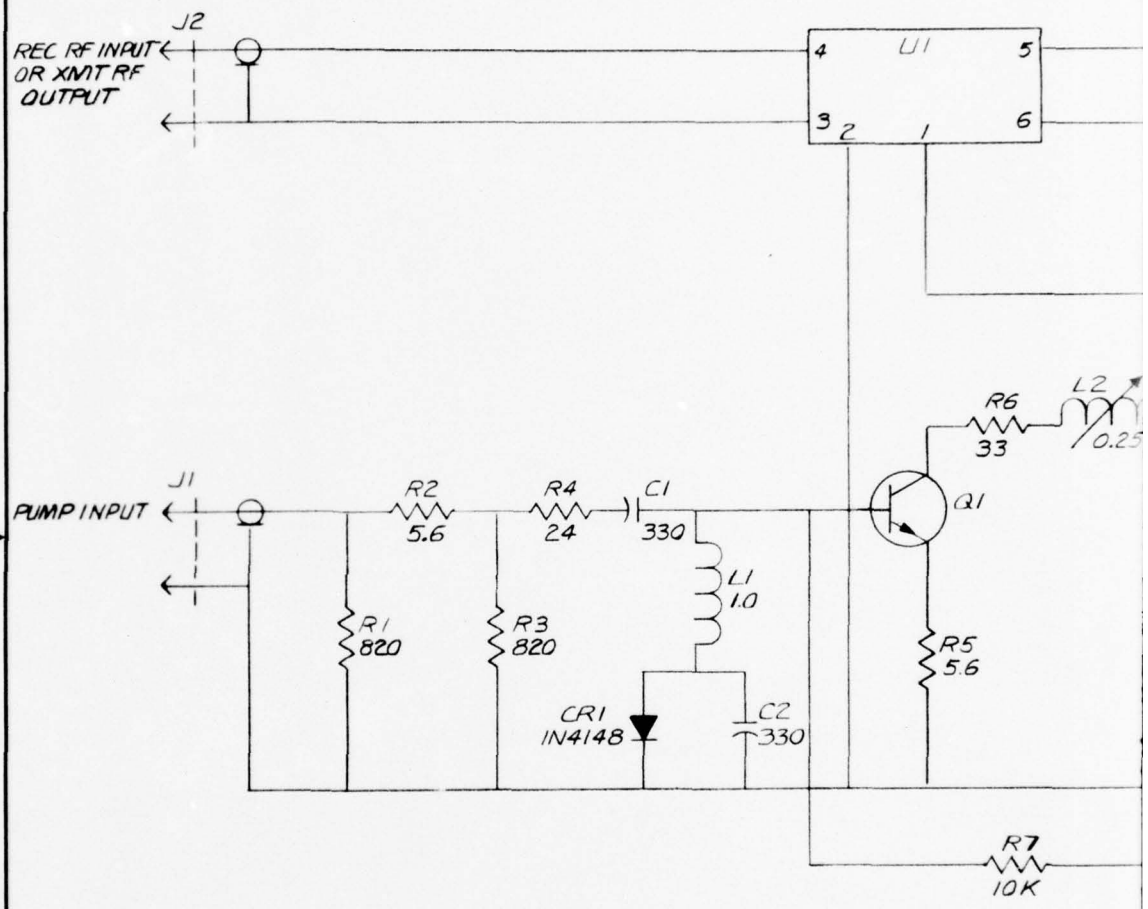
SIZE	CODE IDENT NO.	
D	80063	SM-D-745821
SCALE NONE		SHEET

WHEN REFERRING TO THIS DRAWING STATE DRAWING NO., APPLICABLE ISSUE LETTER IF ANY, AND DATE

2

NOTE

DATA MARKED WITH AN ASTERISK (*) IS PECULIAR TO A PRIOR MANUFACTURER. IT DOES NOT TAKE PRECEDENCE OVER ANY OTHER DATA ON THIS DRAWING, AND IS NOT CONTRACTUALLY BINDING ON EITHER THE CONTRACTOR OR THE GOVERNMENT.



NOTES:

1. COMPONENT VALUES ARE IN OHMS, PICOFARADS, OR MICROHENRIES UNLESS OTHERWISE SPECIFIED.
2. PREFIX REF DESIGNATION OF PART WITH UNIT NO. TO COMPLETE LOCATIONAL REF DESIGNATION.

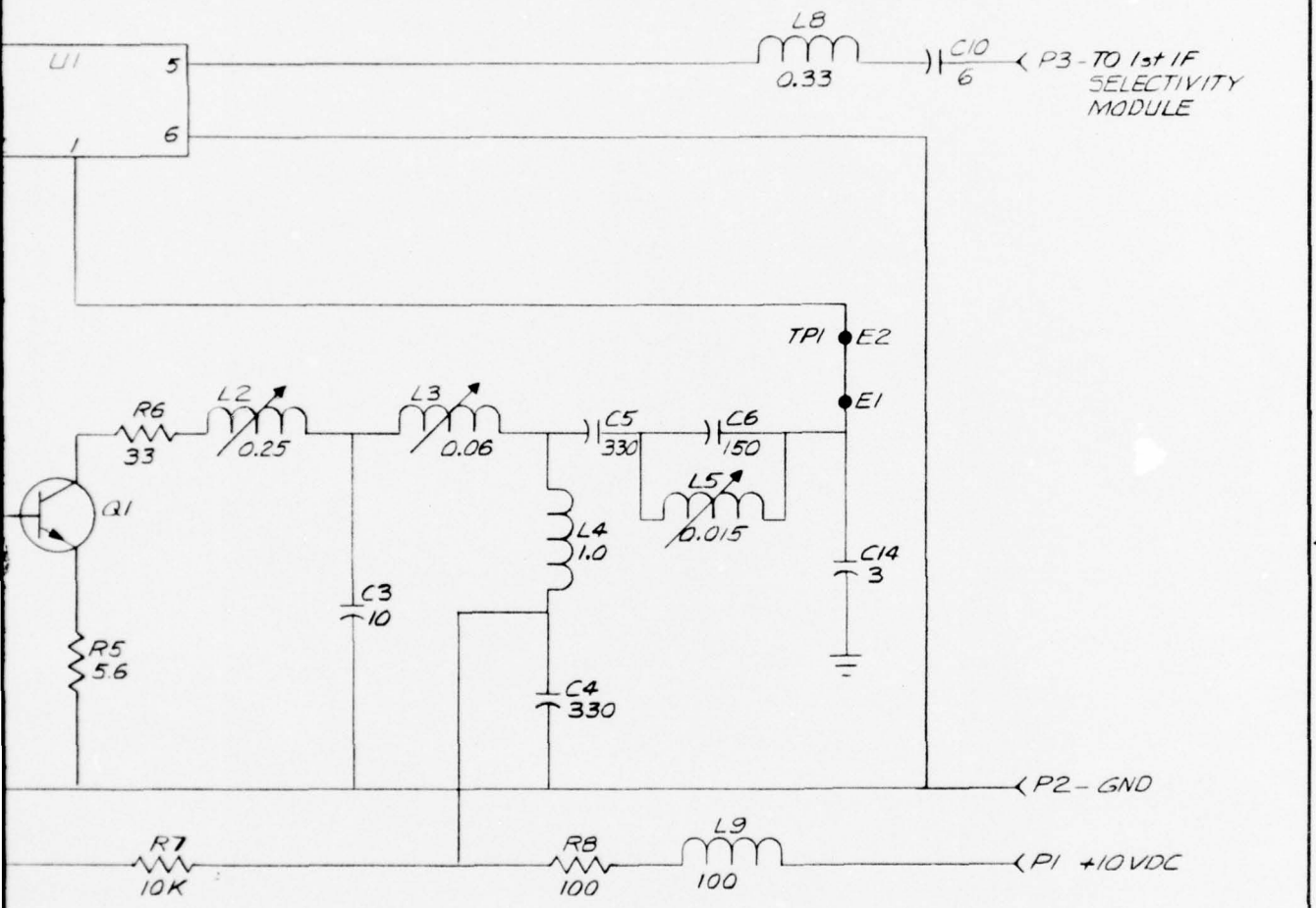
		UNLES
		DIMEN
		TOLER
		FRACTI
		MATER
SM-D-745622	DSM-B-74[illegible]5	
NEXT ASSY	USED ON	
APPLICATION		

BRUNING 10278

AMSEL 17X22 P

CULIAR
TAKE
IS
DING
RNMENT.

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
E	REDRAWN W/O CHANGES CN NOTE JHS	8 JAN 74	
F	DELETED C13 S/N F304	6/9/75	



UNIT 1A1A13

FIND NO.	QTY REQD	CODE IDENT.	PART NO. OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	NOTE

PARTS LIST

		UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES ON: FRACTIONS DECIMALS ANGLES	80045 DAAB07-71-C-0319
		MATERIAL:	ELECTRONICS COMMAND
5622	DWSM B-74-365		REVIEWED
SSY	USED ON		APPROVED
APPLICATION			DATE 13MAY1973

U. S. ARMY ELECTRONICS COMMAND
PROCUREMENT AND PRODUCTION DIRECTORATE
FORT MONMOUTH NEW JERSEY 07703

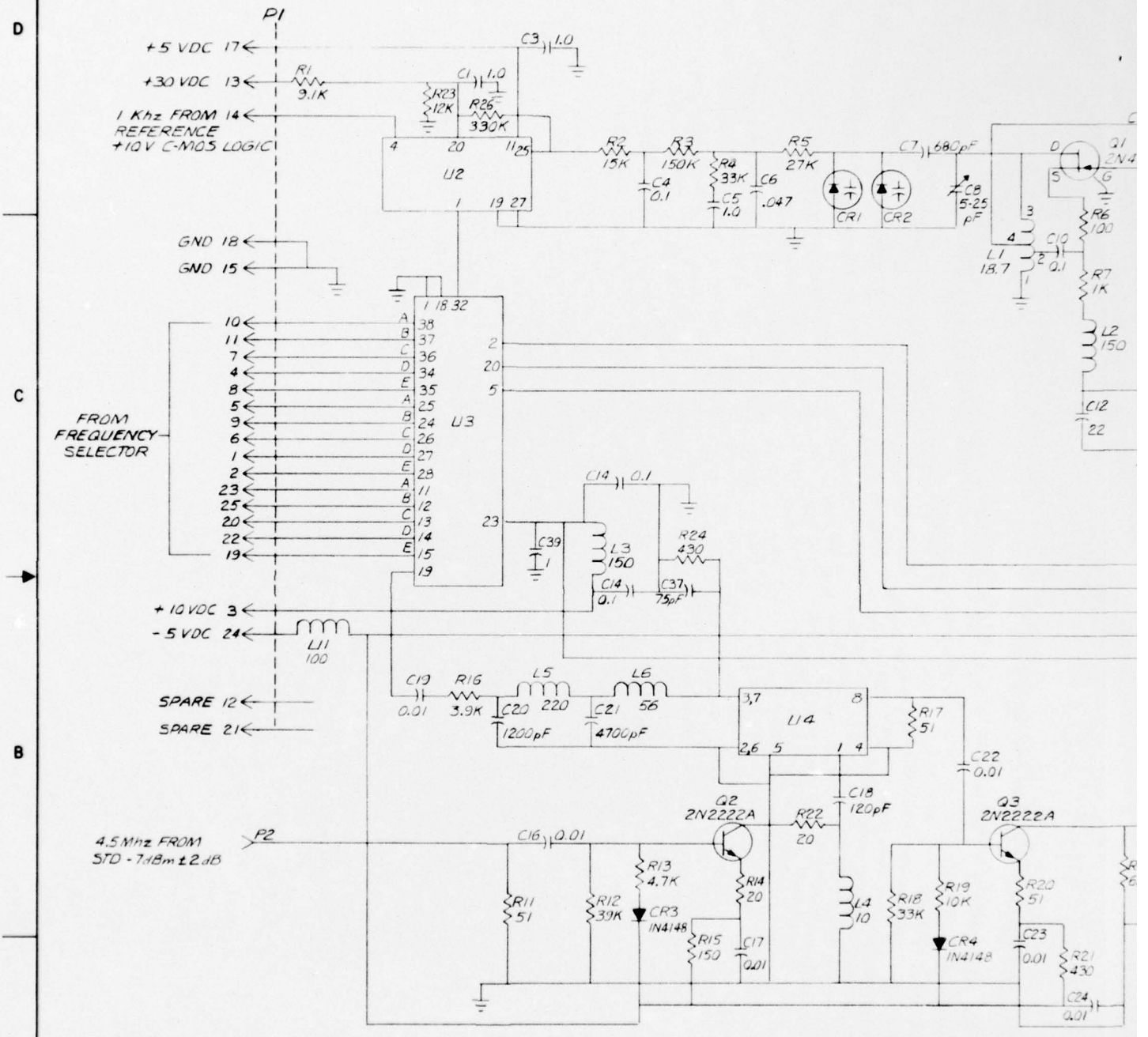
SCHEMATIC DIAGRAM
UP CONVERTER

SIZE	CODE IDENT NO.	
C	80063	SM-C-745825

SCALE NONE SHEET

WHEN REFERRING TO THIS DRAWING STATE DRAWING NO., APPLICABLE ISSUE LETTER IF ANY, AND DATE

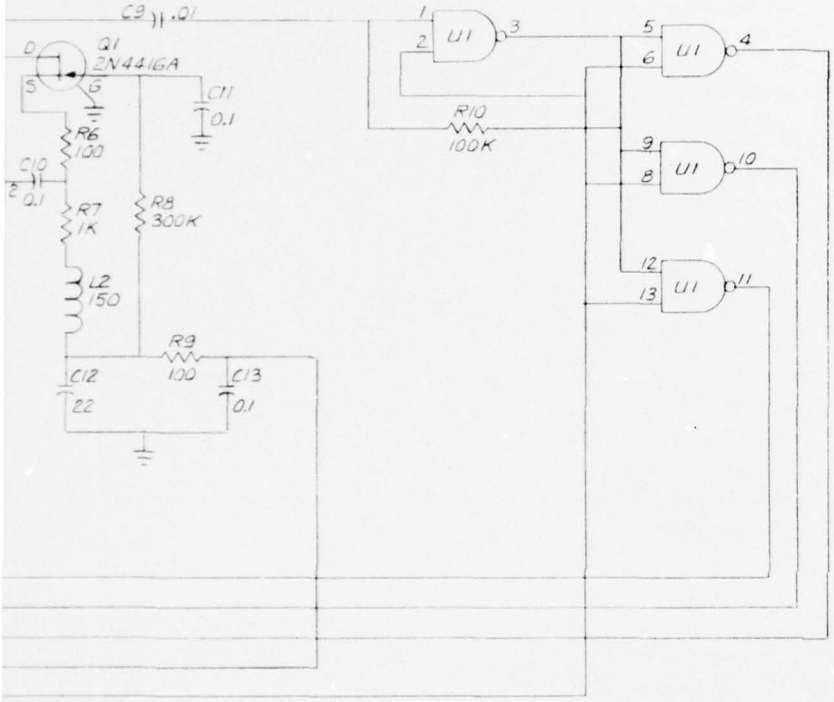
NOTE
DATA MARKED WITH AN ASTERISK (*) IS PECULIAR TO A PRIOR MANUFACTURER. IT DOES NOT TAKE PRECEDENCE OVER ANY OTHER DATA ON THIS DRAWING, AND IS NOT CONTRACTUALLY BINDING ON EITHER THE CONTRACTOR OR THE GOVERNMENT.

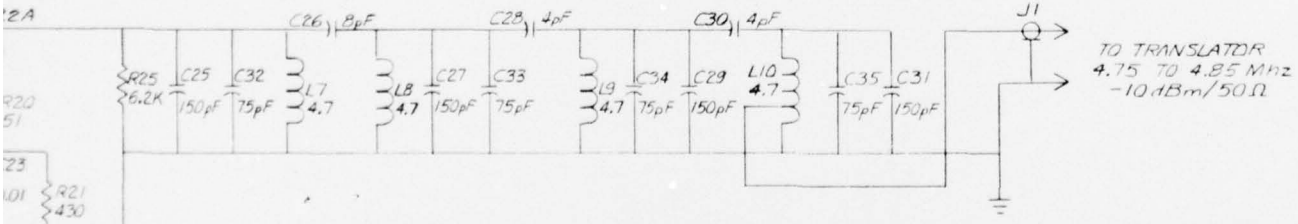


NOTES:

1. COMPONENT VALUES ARE IN OHMS, MICROFAR OR MICROHENRIES UNLESS OTHERWISE SPECI
2. PREFIX REF DESIGNATION OF PART WITH UNI COMPLETE LOCATIONAL REF DESIGNATION.
3. INTEGRATED CIRCUIT U1: VCC (+10 VDC) = P GND = PIN 7

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
	E	REDRAWN W/O CHANGE, CN NONE JHS	13 JAN 74	
	F	C7 WAS 470 pF CN F328	5 JAN 76	
	G	R26 WAS 130 K	28 JAN 76	





UNIT NO. 1A1A9

FIND NO.	QTY REQD	CODE IDENT	PART NO. OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	NOTE

PARTS LIST

HMS, MICROFARADS,
THERWISE SPECIFIED.

PART WITH UNIT NO. TO
ESIGNATION.

C (+10 VDC) = PIN 14
D = PIN 7

SM-D-745836	DLSM-B-746367
NEXT ASSY	USED ON
APPLICATION	

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON:
FRACTIONS DECIMALS ANGLES

MATERIAL:

80045
DAAB07-71-C-0319

ELECTRONICS COMMAND

REVIEWED

APPROVED

DATE 15 APR 1973

U. S. ARMY ELECTRONICS COMMAND
PROCUREMENT AND PRODUCTION DIRECTORATE
FORT MONMOUTH NEW JERSEY 07703

SCHEMATIC DIAGRAM
LOWER LOOP

SIZE D | CODE IDENT NO. 80063 | SM-D-745836

SCALE NONE | SHEET

WHEN REFERRING TO THIS DRAWING STATE DRAWING NO., APPLICABLE ISSUE LETTER IF ANY, AND DATE

NOTE
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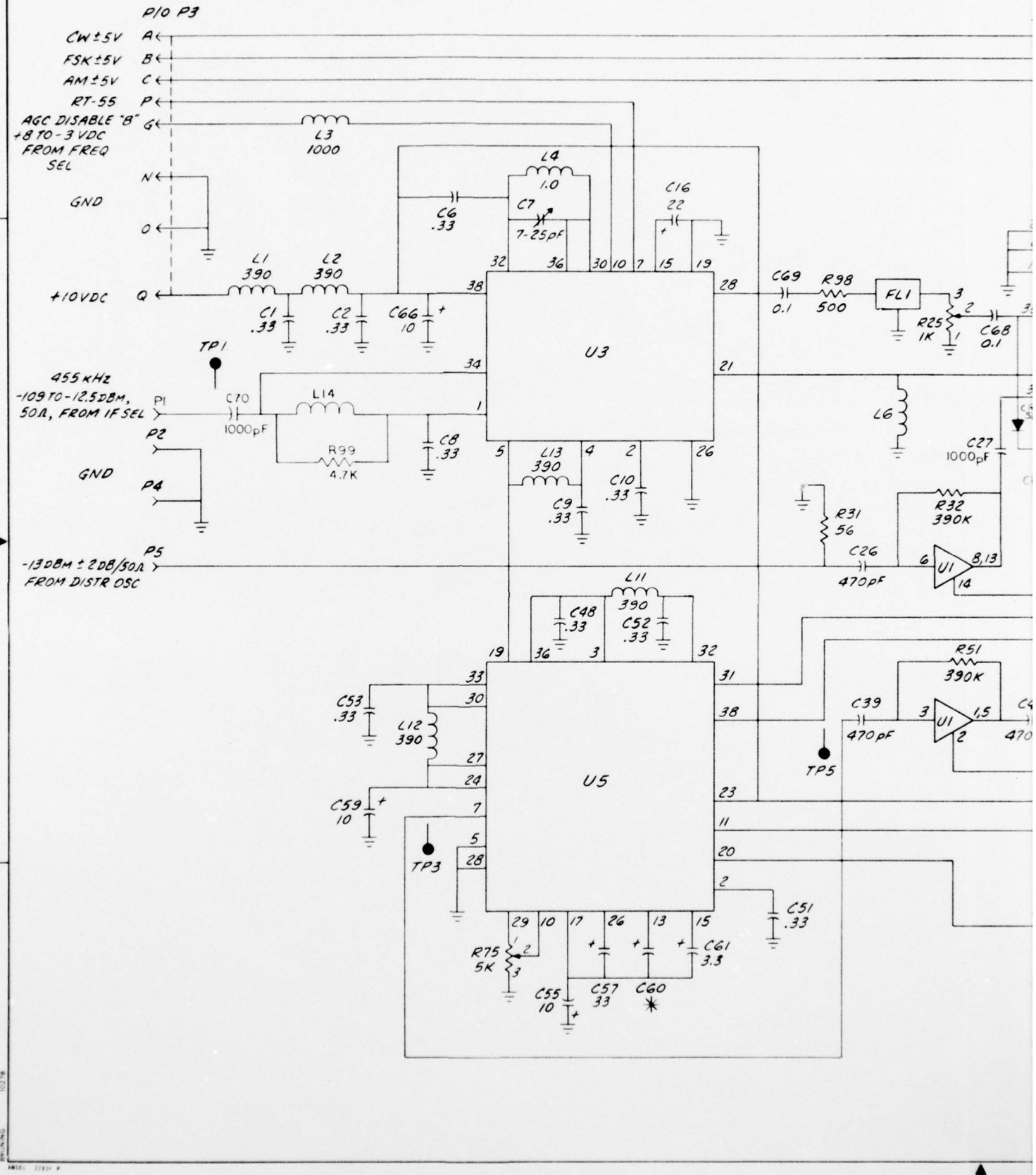
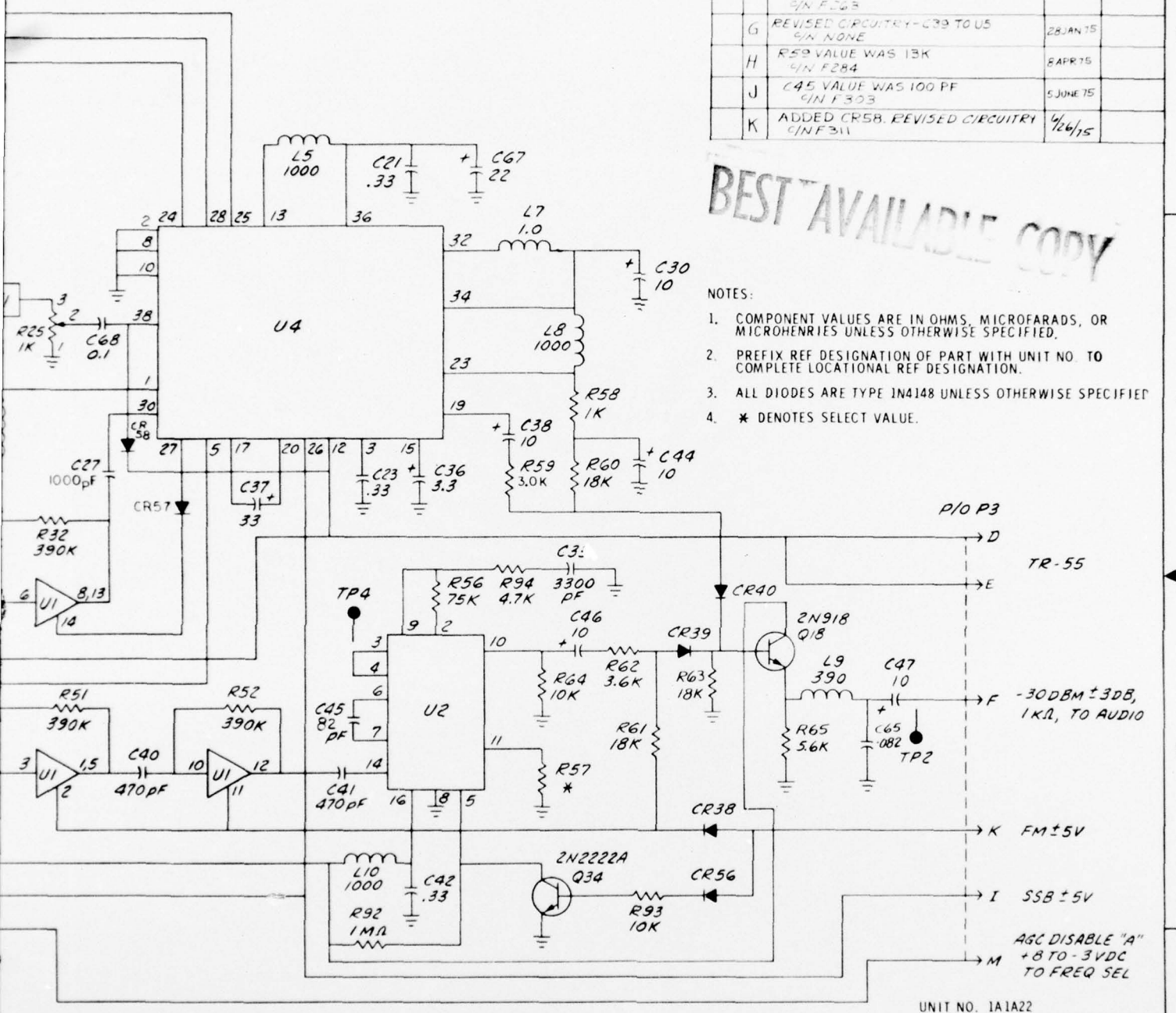


REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
-	E	REDRAWN W/O CHG. CN NONE. WMF	18JUN74	
	F	DELETED R1, C3, C4, T1, R29. VALUE OF C27 WAS 470PF, VALUE OF C45 WAS 51PF. ADDED CR57, C70, L14, R99. REVISED CIRCUITRY. C60 WAS 1.0 S/N F263	2JAN75	
	G	REVISED CIRCUITRY - C39 TO U5 S/N NONE	28JAN75	
	H	R59 VALUE WAS 13K S/N F284	8APR75	
	J	C45 VALUE WAS 100 PF S/N F303	5JUNE75	
	K	ADDED CR58. REVISED CIRCUITRY S/N F311	6/26/75	

NOTES:

1. COMPONENT VALUES ARE IN OHMS, MICROFARADS, OR MICROHENRIES UNLESS OTHERWISE SPECIFIED.
2. PREFIX REF DESIGNATION OF PART WITH UNIT NO. TO COMPLETE LOCATIONAL REF DESIGNATION.
3. ALL DIODES ARE TYPE 1N4148 UNLESS OTHERWISE SPECIFIED
4. * DENOTES SELECT VALUE.



UNIT NO. 1A1A22

FIND NO.	QTY REQD	CODE IDENT.	PART NO. OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	NOTE

PARTS LIST

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES ON:
FRACTIONS DECIMALS ANGLES
— — —

MATERIAL:

SM-D-745611	DLSM-B196-L8
NEXT ASSY	USED ON
APPLICATION	

80045
DAAB07-71-C-0319
ELECTRONICS COMMAND

REVIEWED	
APPROVED	
DATE	14 MAY 1973

U. S. ARMY ELECTRONICS COMMAND
PROCUREMENT AND PRODUCTION DIRECTORATE
FORT MONMOUTH NEW JERSEY 07703

SCHEMATIC DIAGRAM, RECEIVER IF AND DETECTION

SIZE	CODE IDENT NO.	
D	80063	SM-D-745838
SCALE NONE		SHEET

WHEN REFERRING TO THIS DRAWING STATE DRAWING NO., APPLICABLE ISSUE LETTER IF ANY, AND DATE

NOTE
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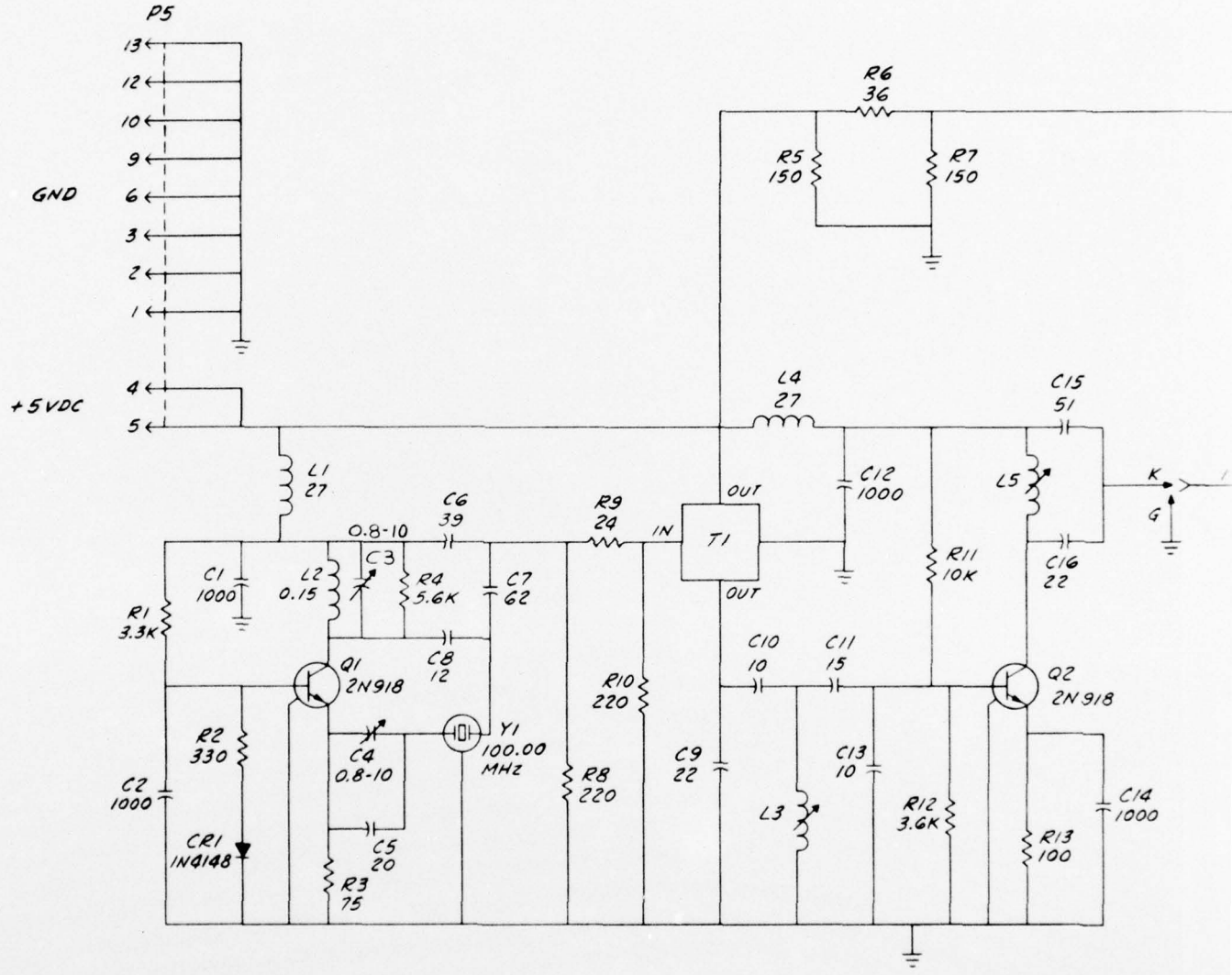
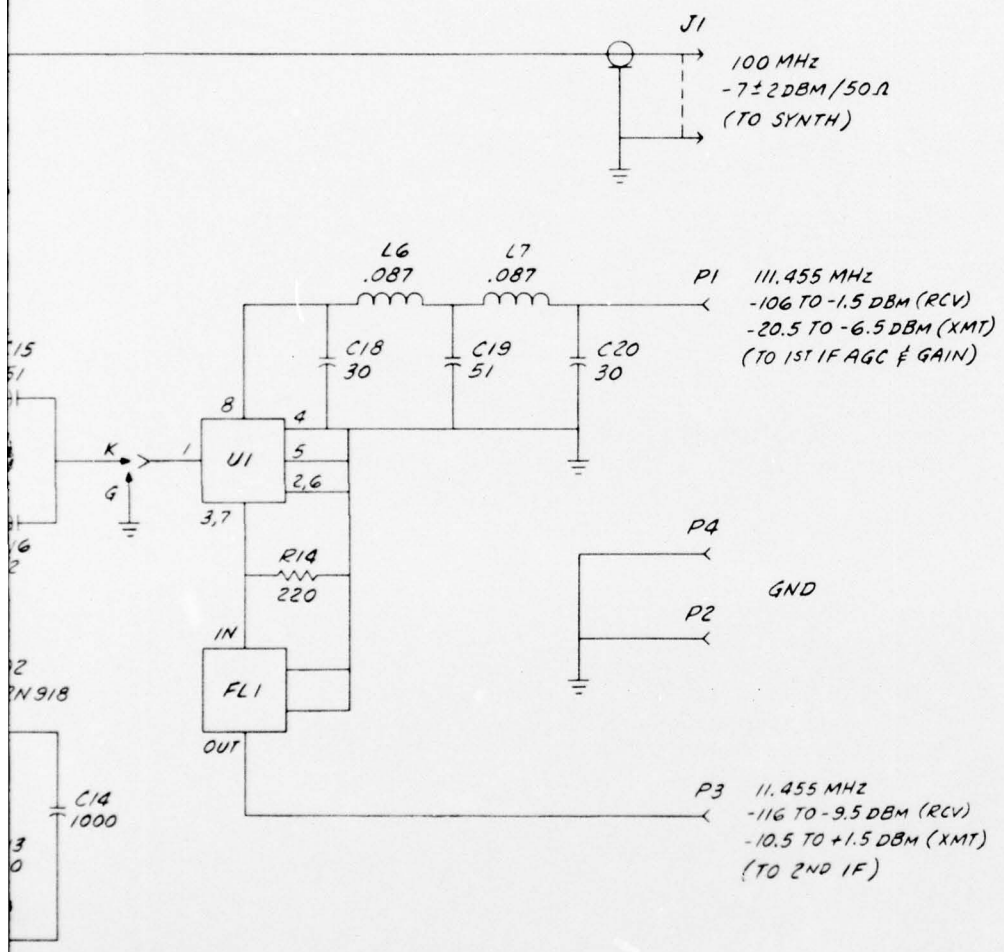


REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
-	D	REDRAWN W/O CHG. CN NONE. WMF	13 JUN 74	
	E	DELETED C21, C22, C23, L8, L9. ADDED C3 CN-F232	25 SEPT 74	



NOTES:

1. COMPONENT VALUES ARE IN OHMS, PICOFARADS, OR MICROHENRIES UNLESS OTHERWISE SPECIFIED.
2. PREFIX REF DESIGNATION OF PART WITH UNIT NO. TO COMPLETE LOCATIONAL REF DESIGNATION.

UNIT NO. 1A1A16

FIND NO.	QTY REQD	CODE IDENT	PART NO. OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	NOTE

PARTS LIST

SM-D-745616	SM-B-746359
NEXT ASSY	USED ON
APPLICATION	

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES ON:
FRACTIONS — DECIMALS — ANGLES

MATERIAL:

80045
DAAB07-71-C-0319

ELECTRONICS COMMAND

REVIEWED
APPROVED
DATE 14 MAY 1973

U. S. ARMY ELECTRONICS COMMAND
PROCUREMENT AND PRODUCTION DIRECTORATE
FORT MONMOUTH NEW JERSEY 07703

SCHEMATIC DIAGRAM, SECOND MIXER

SIZE	CODE IDENT NO.	
D	80063	SM-D-745846

SCALE NONE SHEET

WHEN REFERRING TO THIS DRAWING STATE DRAWING NO., APPLICABLE ISSUE LETTER IF ANY, AND DATE

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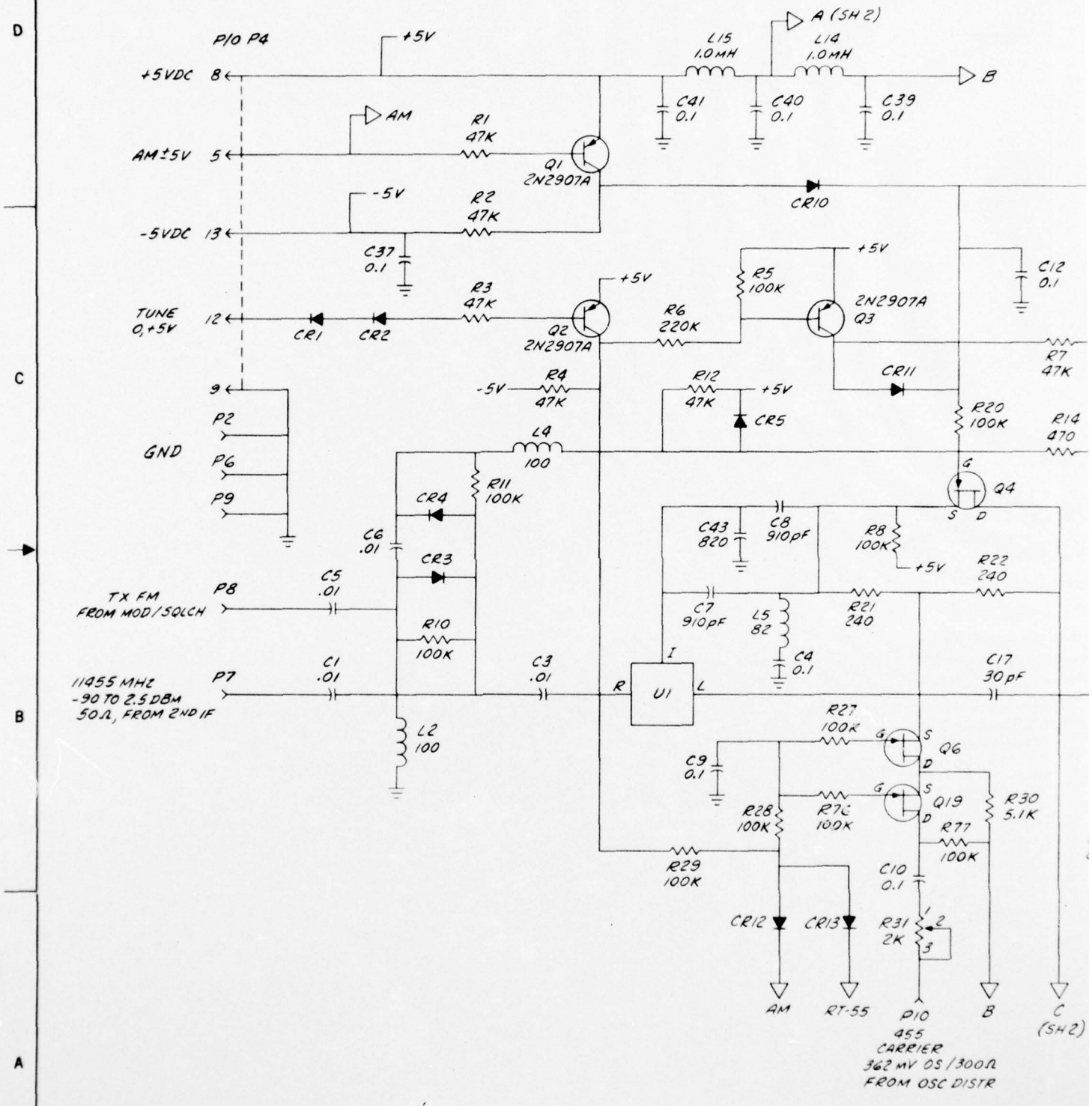
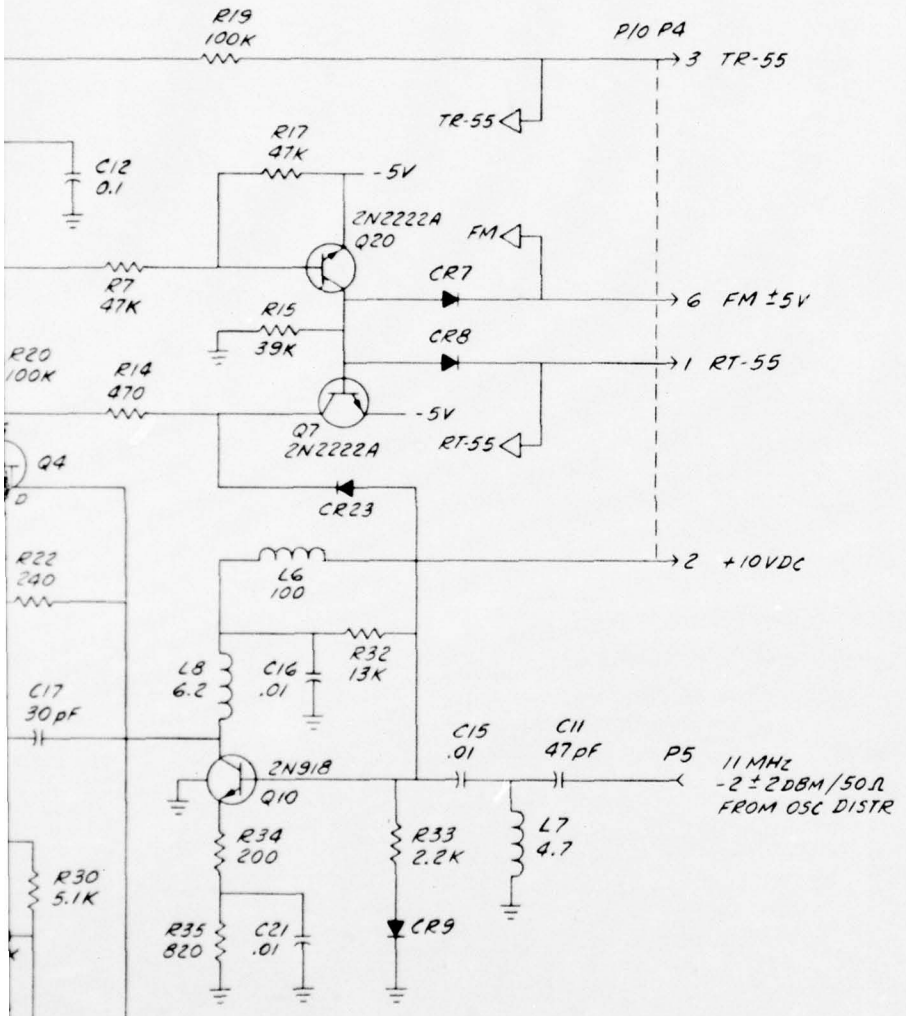


* REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
–	D	REDRAWN W/O CHG. CN NONE WMF	10JUN74	
	E	NO CHANGE SEE SHT 2 PNF 298	9/28/15	



NOTES:

1. COMPONENT VALUES ARE IN OHMS, MICROFARADS OR MICROHENRIES UNLESS OTHERWISE SPECIFIED.
2. PREFIX REF DESIGNATION OF PART WITH UNIT NO. TO COMPLETE LOCATIONAL REF DESIGNATION.
3. ALL TRANSISTORS ARE TYPE 2N3971, ALL DIODES TYPE 1N4148 UNLESS OTHERWISE SPECIFIED.

UNIT NO. 1A1A19

FIND NO.	QTY REQD	CODE IDENT	PART NO. OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	NOTE

PARTS LIST

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES ON:
FRACTIONS — DECIMALS — ANGLES —

MATERIAL:

NEXT ASSY	USED ON
SM-D-745623	DLSM-B-746366

APPLICATION

80045
DAAB07-71-C-0319

ELECTRONICS COMMAND

REVIEWED
APPROVED
DATE 10 APR 1973

U. S. ARMY ELECTRONICS COMMAND
PROCUREMENT AND PRODUCTION DIRECTORATE
FORT MONMOUTH NEW JERSEY 07703

SCHEMATIC DIAGRAM,
IF SELECTIVITY

SIZE	CODE IDENT NO.	
D	80063	SM-D-745848

SCALE NONE SHEET 1 OF 2

WHEN REFERRING TO THIS DRAWING STATE DRAWING NO., APPLICABLE ISSUE LETTER IF ANY, AND DATE

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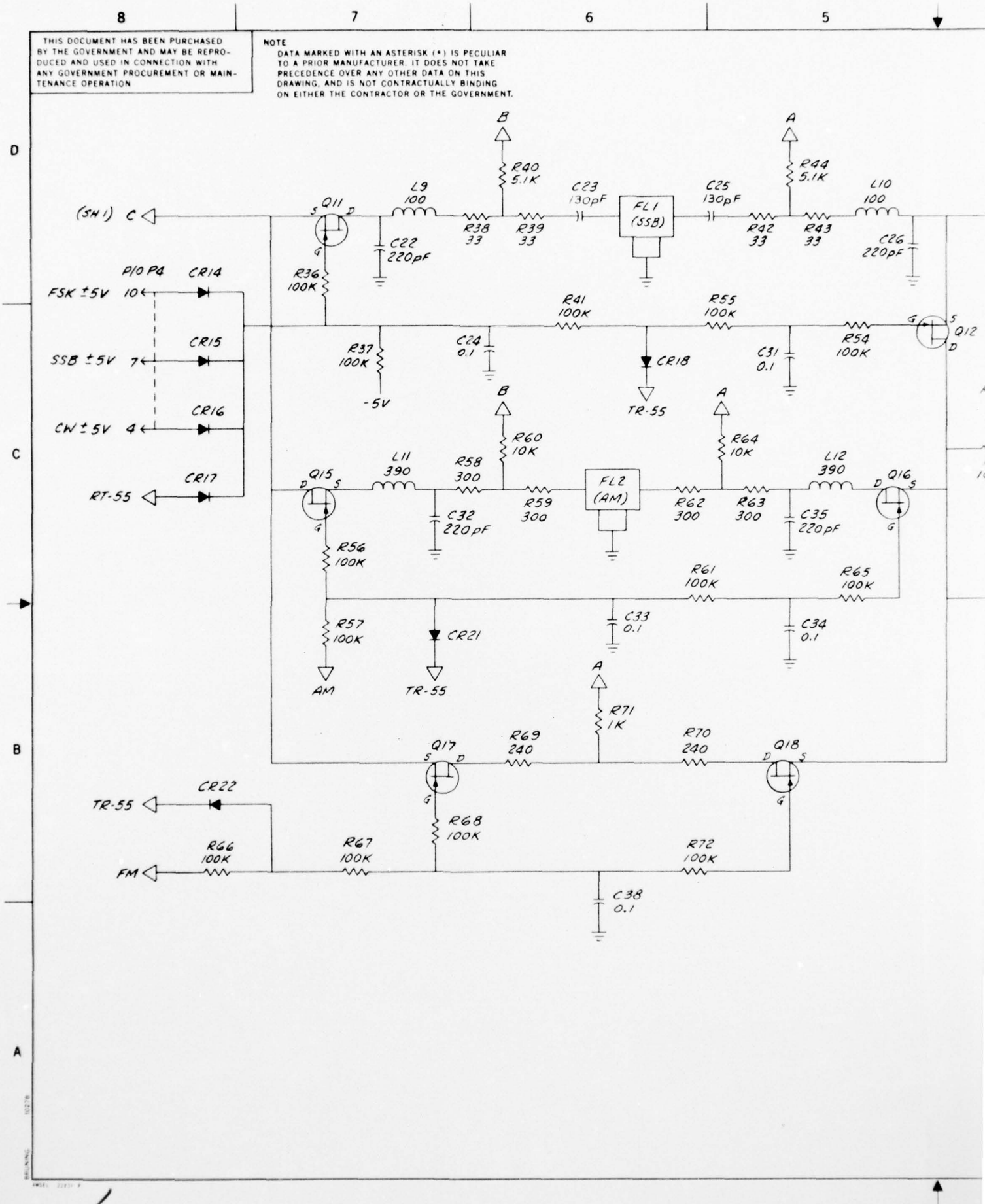

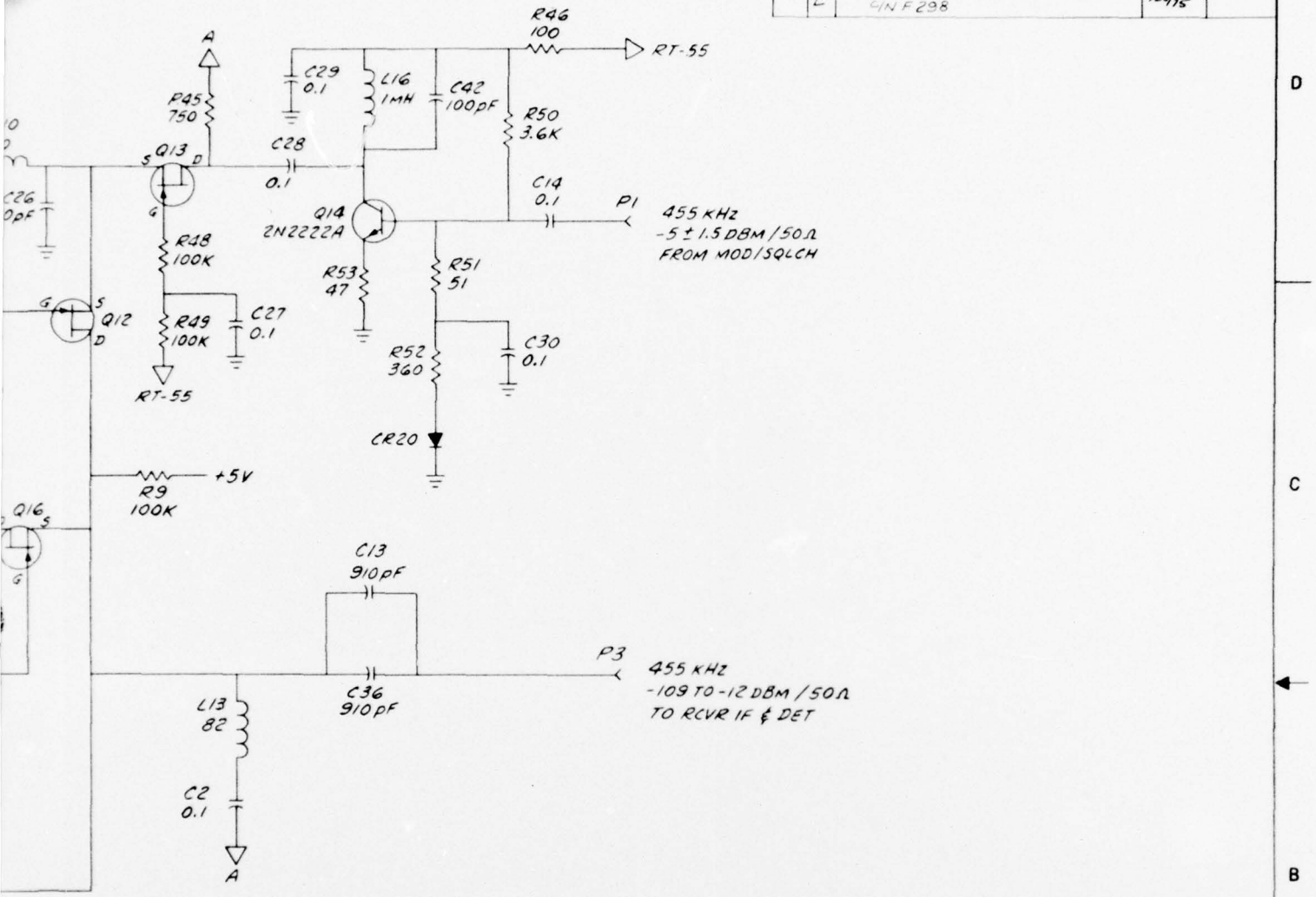

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
–	D	REDRAWN W/O CHG. CN NONE. WMF	10JUN74	
	E	C23 & C25 VALUE WAS 0.1 C/N F298	5/24/75	

FIND NO.	QTY REQD	CODE IDENT.	PART NO. OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	NOTE

PARTS LIST

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON:
FRACTIONS DECIMALS ANGLES

MATERIAL:

NEXT ASSY | USED ON

APPLICATION

ELECTRONICS COMMAND

REVIEWED

APPROVED

DATE

U. S. ARMY ELECTRONICS COMMAND
PROCUREMENT AND PRODUCTION DIRECTORATE
FORT MONMOUTH NEW JERSEY 07703

SIZE D | CODE IDENT NO. 80063 | SM-D-745848

SCALE | SHEET 2

WHEN REFERRING TO THIS DRAWING STATE DRAWING NO., APPLICABLE ISSUE LETTER IF ANY, AND DATE

2

NOTE
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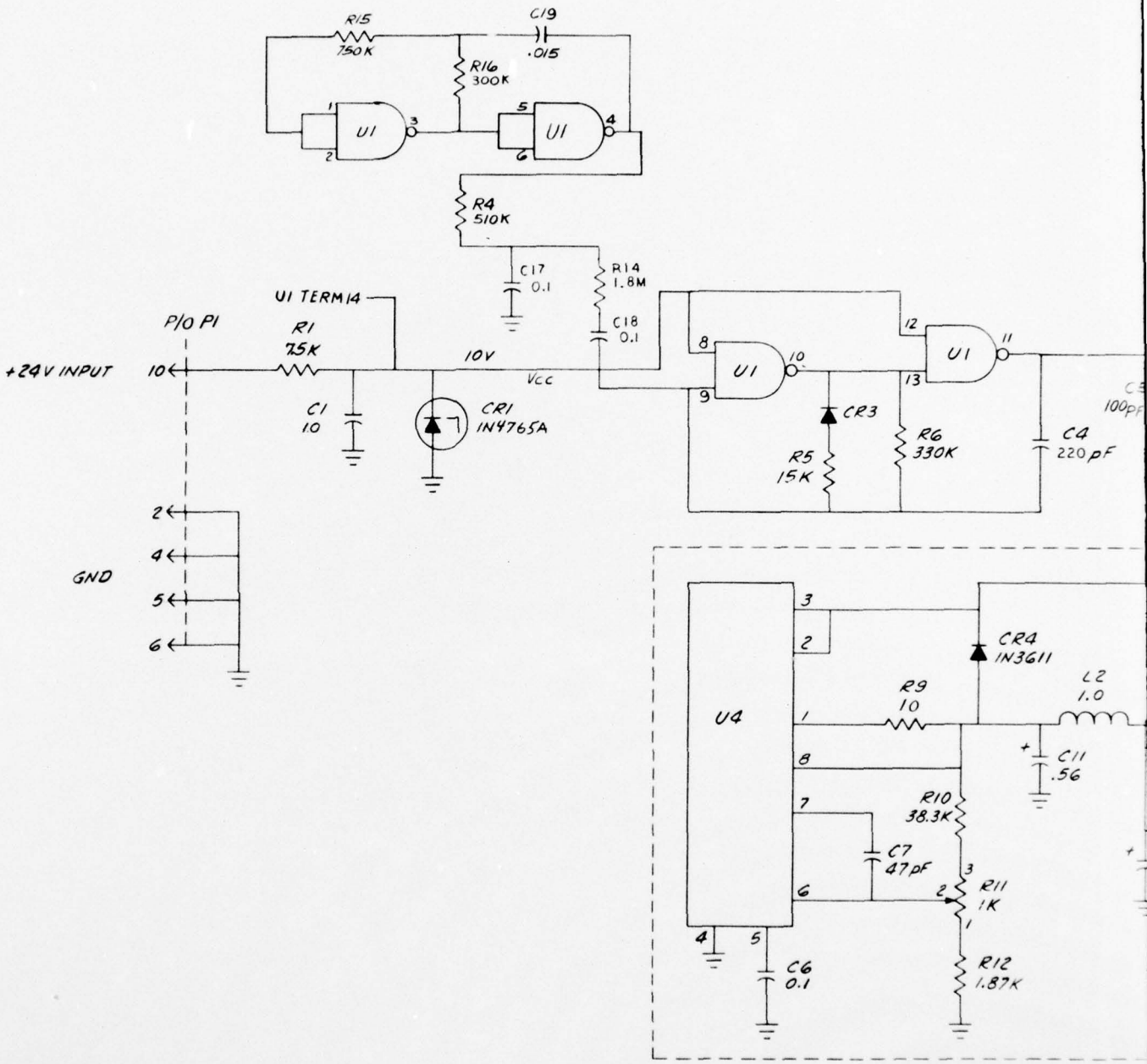
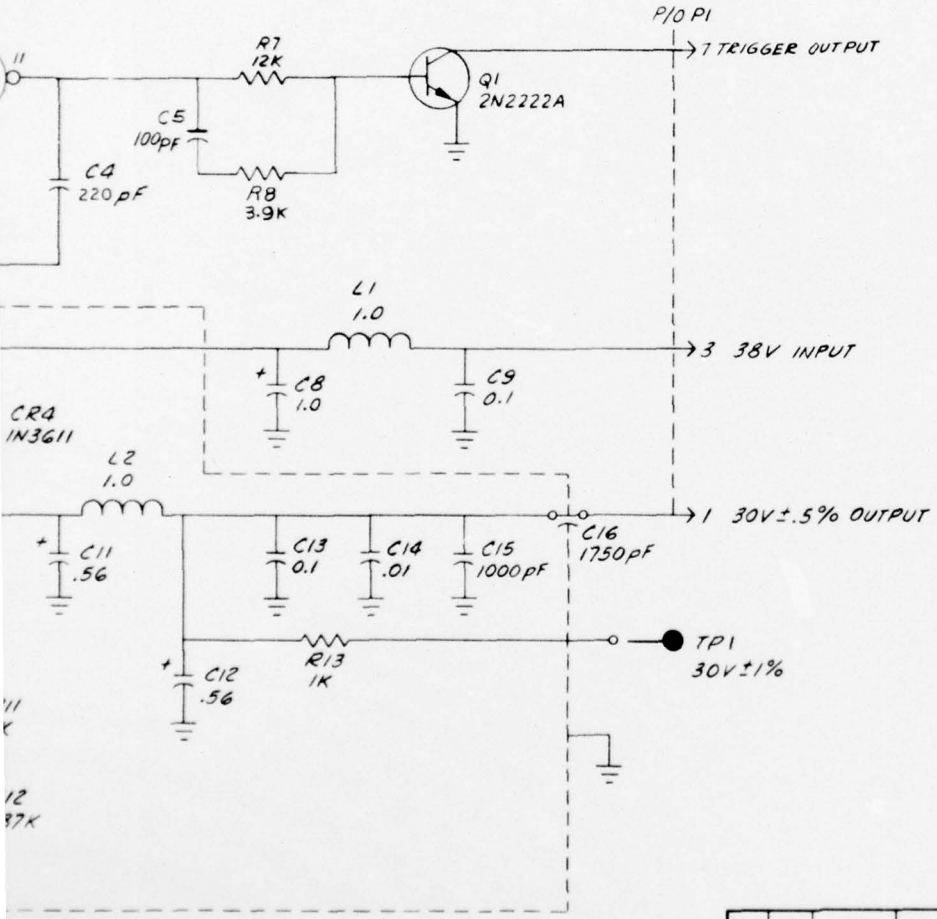


REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
–	C	REDRAWN W/O CHG. CN NONE. WMF	20MAR74	
	D	VALUE OF R4 WAS 10K, C4 VALUE WAS 100PF. DELETED U2, C3, R3, CR2, CR5, CR6. ADDED C17, C18, C19, R14 R15, R16. REVISED CIRCUITRY & NOTE 4 S/N F267	3JAN75	
	E	R9 VALUE WAS 36 S/N F275	14FEB75	
	F	DELETED R2, C2, U3. REVISED CIRCUITRY S/N F306	4/13/75	
	G	VALUE OF R1 WAS 15K, CR1 WAS IN158A, VALUE OF C1 WAS .01	5/17/76	



NOTES:

1. COMPONENT VALUES ARE IN OHMS, MICROFARADS, OR MILLIHENRIES UNLESS OTHERWISE SPECIFIED.
2. PREFIX REF DESIGNATION OF PART WITH UNIT NO. TO COMPLETE LOCATIONAL REF DESIGNATION.
3. ALL DIODES ARE TYPE 1N4148 UNLESS OTHERWISE SPECIFIED.
4. INTEGRATED CIRCUITS: V_{CC} (U1) = TERM NO. 14
   GND (U1) = TERM NO. 7

UNIT NO. 1A1A3

FIND NO.	QTY REQD	CODE IDENT	PART NO. OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	NOTE

PARTS LIST

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES ON:
FRACTIONS DECIMALS ANGLES
— — —

MATERIAL:

SM-D-745755	DL-SM-B-746373
NEXT ASSY	USED ON
APPLICATION	

80045
DAAB07-71-C-0319
ELECTRONICS COMMAND

REVIEWED
APPROVED
DATE 15 APR 1973

U. S. ARMY ELECTRONICS COMMAND
PROCUREMENT AND PRODUCTION DIRECTORATE
FORT MONMOUTH NEW JERSEY 07703

SCHEMATIC DIAGRAM,
POWER SUPPLY, TRIGGER & 30V RGLTR

SIZE	CODE IDENT NO.	SM-D-745855
D	80063	

SCALE NONE SHEET

WHEN REFERRING TO THIS DRAWING STATE DRAWING NO., APPLICABLE ISSUE LETTER IF ANY, AND DATE

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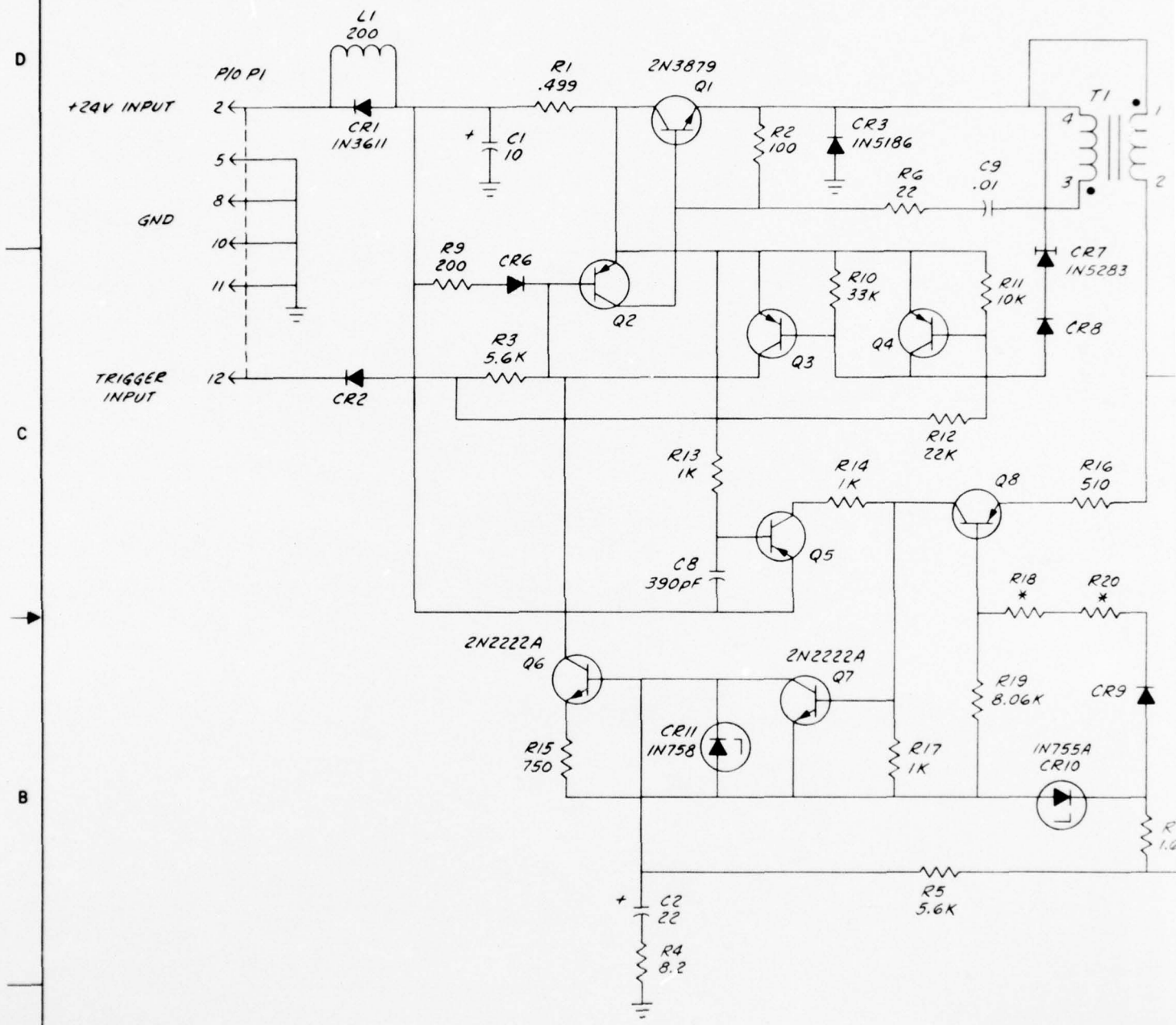
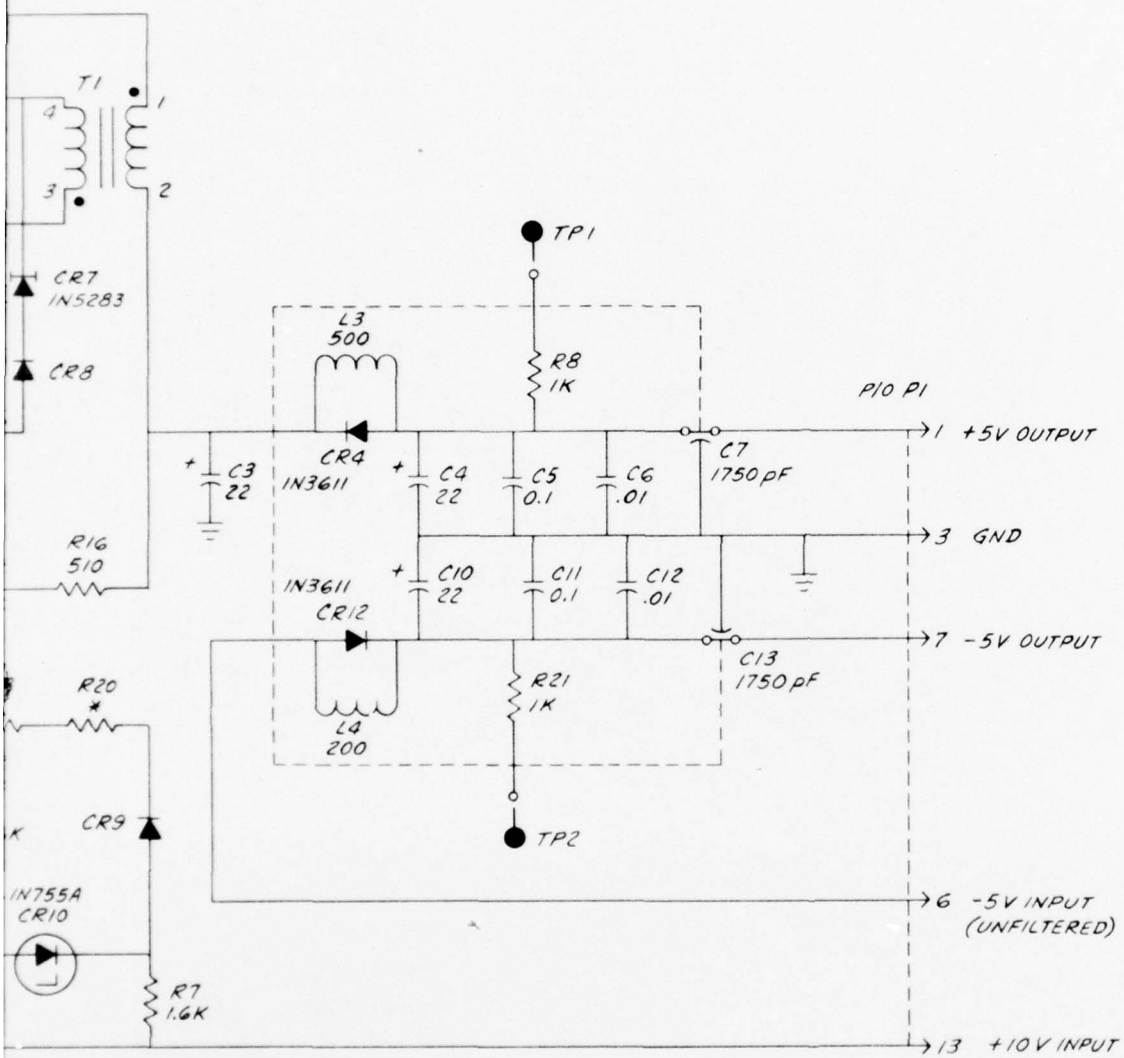


REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
–	A	REDRAWN W/O CHG. CN NONE WMF	28MAY74	



NOTES:

1. COMPONENT VALUES ARE IN OHMS, MICROFARADS, OR MICROHENRIES UNLESS OTHERWISE SPECIFIED.
2. PREFIX REF DESIGNATION OF PART WITH UNIT NO. TO COMPLETE LOCATIONAL REF DESIGNATION.
3. ALL TRANSISTORS ARE TYPE 2N2907A, ALL DIODES TYPE 1N4148 UNLESS OTHERWISE SPECIFIED.
4. * DENOTES SELECT VALUE.

UNIT NO. 1A1A5

FIND NO.	QTY REQD	CODE IDENT.	PART NO. OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	NOTE

PARTS LIST

SM-D-745757	DESIG: B-746357
NEXT ASSY	USED ON
APPLICATION	

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES ON:
FRACTIONS DECIMALS ANGLES
— — —

MATERIAL:

80045
DAAB07-71-C-0319

ELECTRONICS COMMAND
REVIEWED
APPROVED
DATE 10 MAY 1973

U. S. ARMY ELECTRONICS COMMAND
PROCUREMENT AND PRODUCTION DIRECTORATE
FORT MONMOUTH NEW JERSEY 07703

SCHEMATIC DIAGRAM,
POWER SUPPLY, 5V REGULATOR

SIZE	CODE IDENT NO.	
D	80063	SM-D-745857

SCALE NONE SHEET

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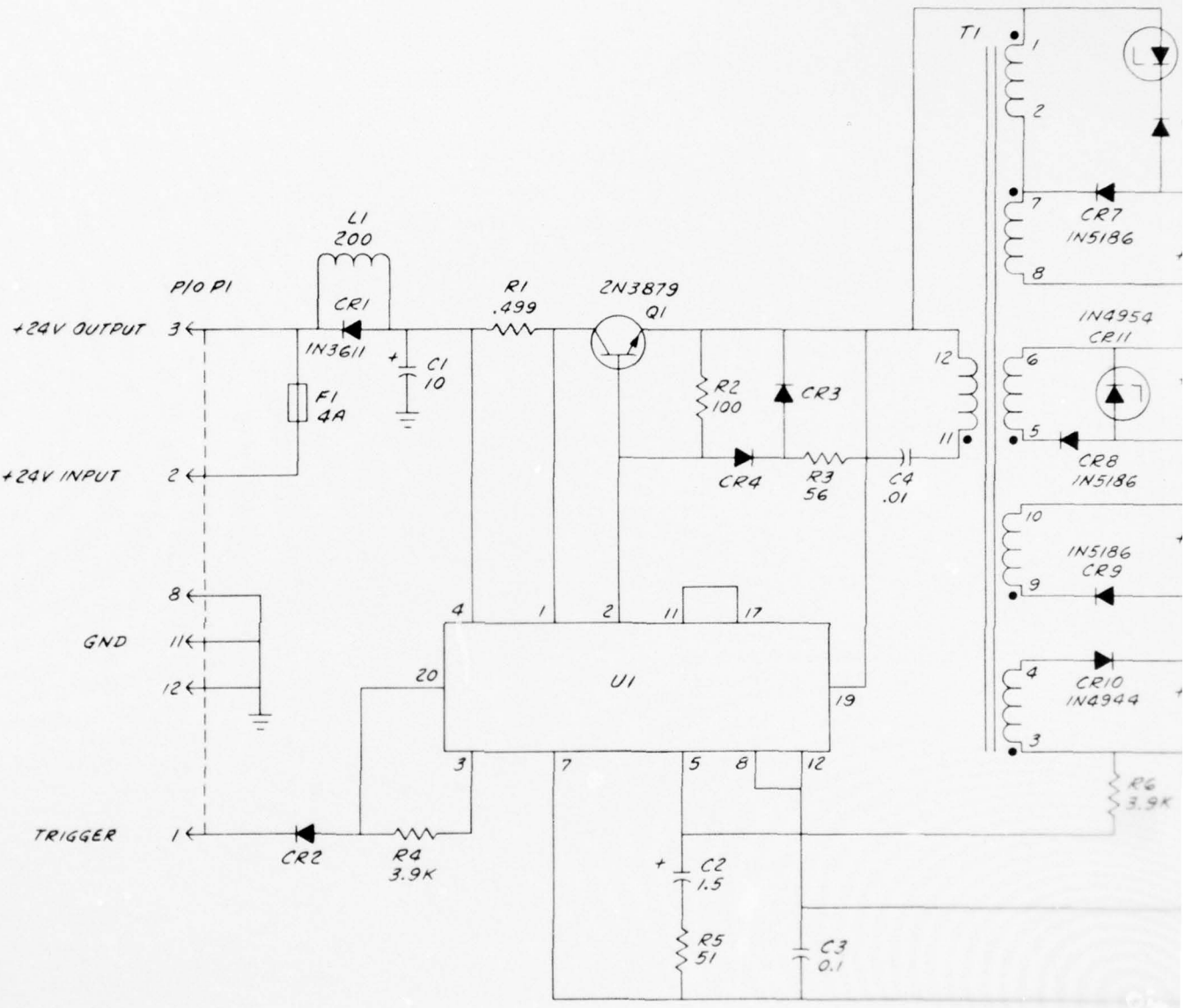
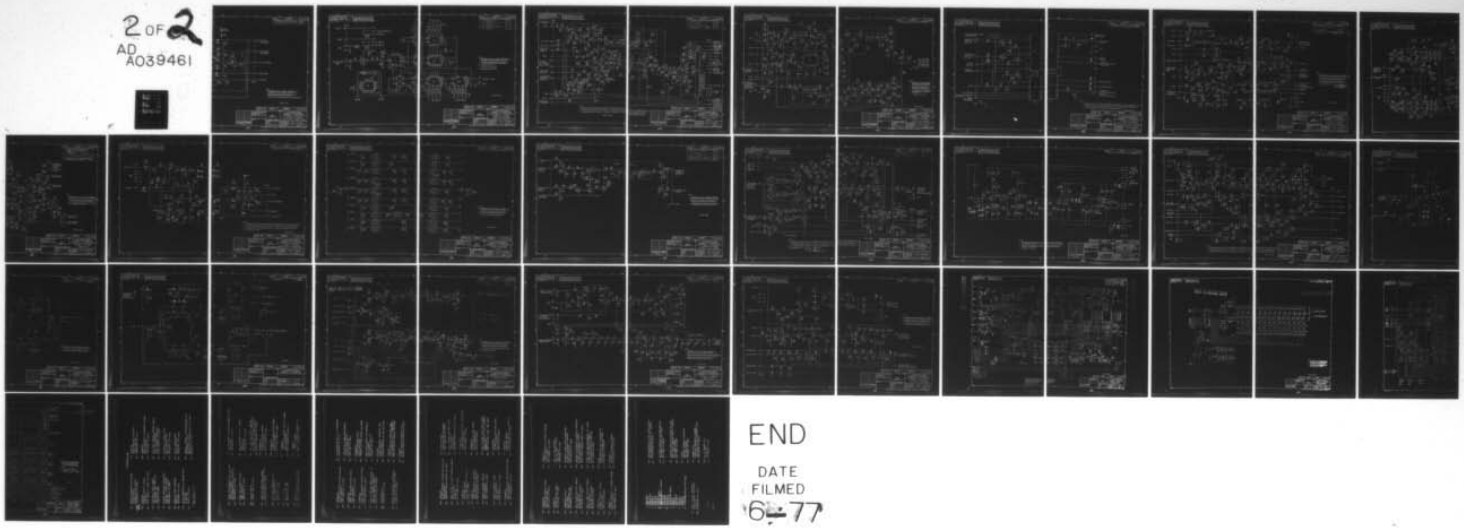


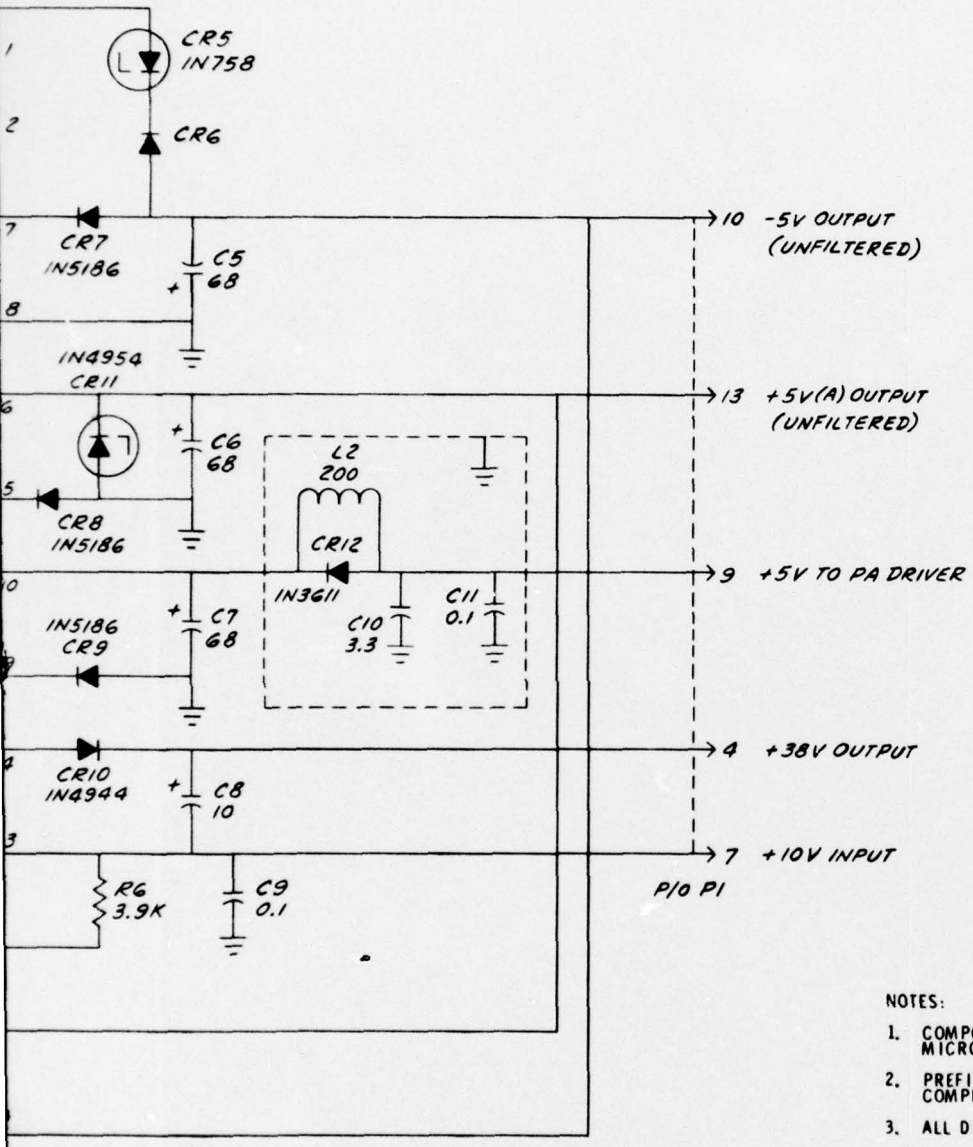
AD-A039 461 CINCINNATI ELECTRONICS CORP OHIO F/G 17/2.1
RADIO SET AN/PRC-70( ).(U)
FEB 77 C A BUCHER
UNCLASSIFIED 80045-PRC-42/676 ECOM-71-0319-9 DAAB07-71-C-0319 NL

2 OF 2
AD A039461



END
DATE FILMED
6-77

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
-	B	REDRAWN W/O CHG. CN NONE. WMF	29MAY74	
	C	DELETED TP1, TP2, TP3, R7, R8, R9 C/N NONE	12AUG74	



NOTES:

1. COMPONENT VALUES ARE IN OHMS, MICROFARADS, OR MICROHENRIES UNLESS OTHERWISE SPECIFIED.
2. PREFIX REF DESIGNATION OF PART WITH UNIT NO. TO COMPLETE LOCATIONAL REF DESIGNATION.
3. ALL DIODES ARE TYPE 1N4148 UNLESS OTHERWISE SPECIFIED.

UNIT NO. 1A1A2

FIND NO.	QTY REQD	CODE IDENT.	PART NO. OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	NOTE

PARTS LIST

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES ON:
FRACTIONS — DECIMALS — ANGLES

MATERIAL:

NEXT ASSY	USED ON
SM-D-745758	DLSMB746372

APPLICATION

80045
DAAB07-71-C-0319
ELECTRONICS COMMAND

REVIEWED
APPROVED
DATE 15 APR 1973

U. S. ARMY ELECTRONICS COMMAND
PROCUREMENT AND PRODUCTION DIRECTORATE
FORT MONMOUTH NEW JERSEY 07703

SCHEMATIC DIAGRAM,
POWER SUPPLY, FLYBACK RGLTR

SIZE	CODE IDENT NO.	
D	80063	SM-D-745858

SCALE NONE SHEET

2

WHEN REFERRING TO THIS DRAWING STATE DRAWING NO., APPLICABLE ISSUE LETTER IF ANY, AND DATE

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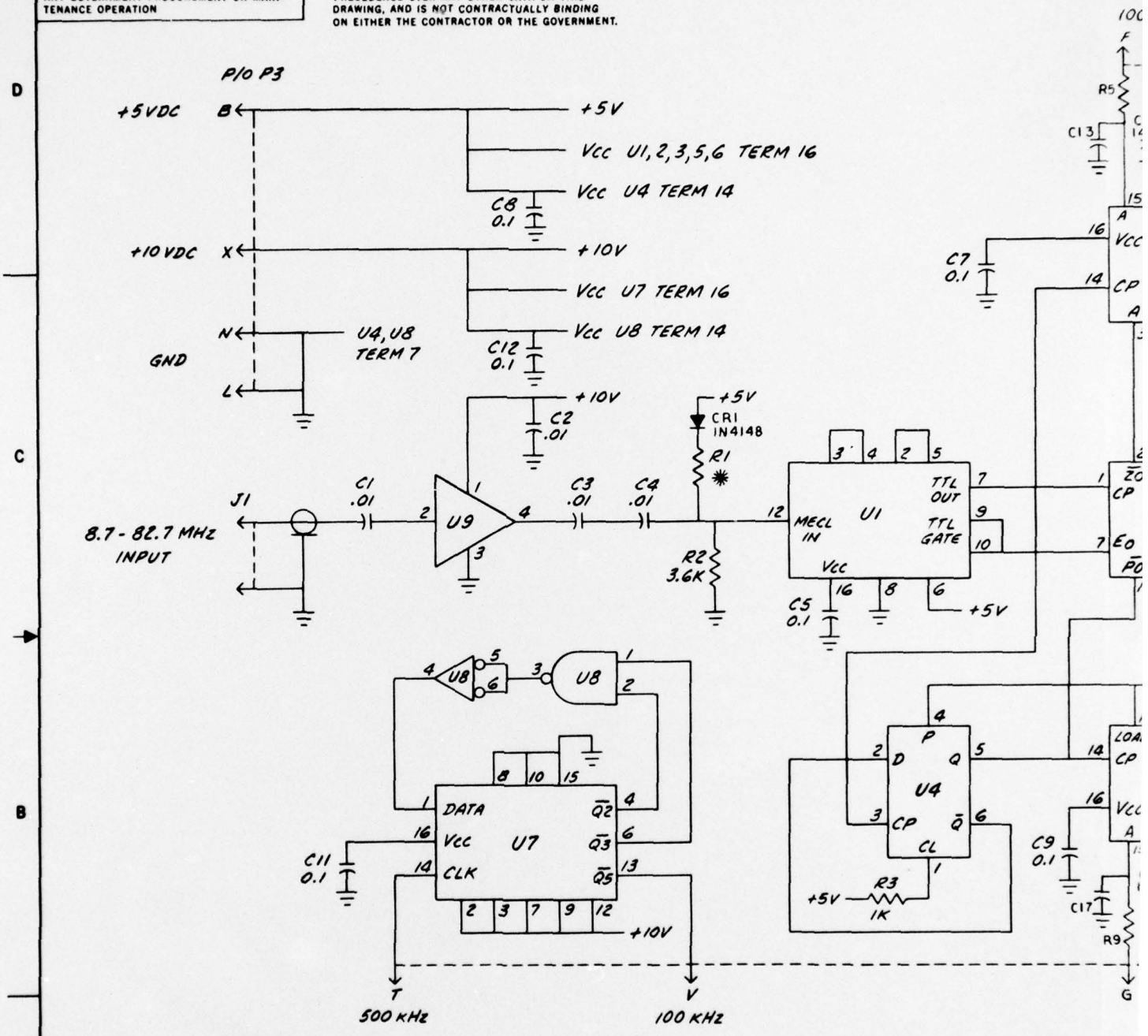
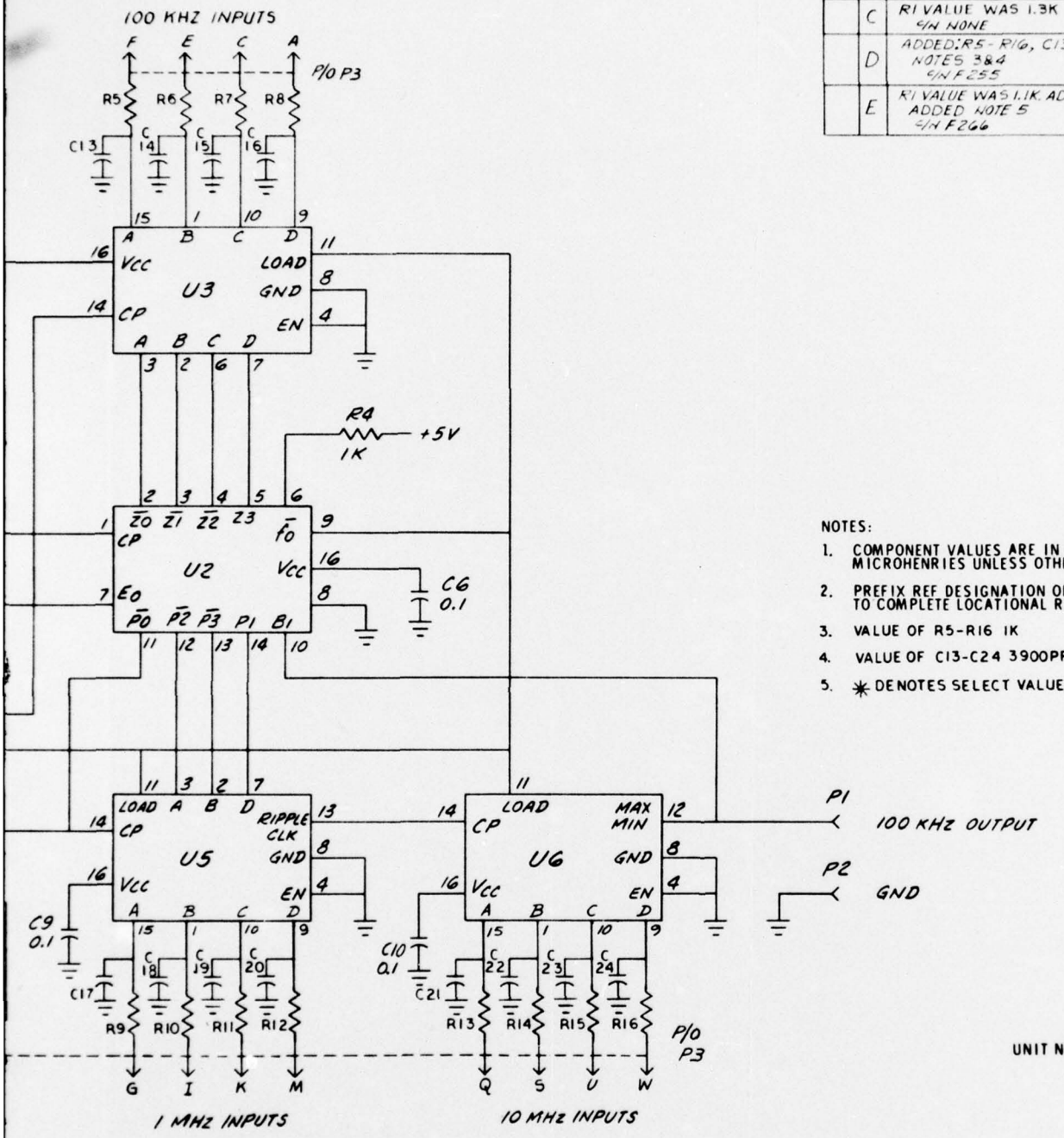


REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
-	B	REDRAWN W/CHG. CN NONE. WMF	26JUN74	
	C	R1 VALUE WAS 1.3K S/N NONE	17OCT74	
	D	ADDED: R5-R16, C13-C24, NOTES 3&4 S/N F255	21NOV74	
	E	R1 VALUE WAS 1.1K. ADDED CR1 ADDED NOTE 5 S/N F266	27DEC74	



NOTES:

1. COMPONENT VALUES ARE IN OHMS, MICROFARADS, OR MICROHENRIES UNLESS OTHERWISE SPECIFIED.
2. PREFIX REF DESIGNATION OF PART WITH UNIT NO. TO COMPLETE LOCATIONAL REF DESIGNATION.
3. VALUE OF R5-R16 1K
4. VALUE OF C13-C24 3900PF
5. * DENOTES SELECT VALUE

UNIT NO. 1A1A7

FIND NO.	QTY REQD	CODE IDENT.	PART NO. OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	NOTE

PARTS LIST

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES ON:
FRACTIONS DECIMALS ANGLES
— — —

MATERIAL:

SM-D-745609 SM-D-746380
NEXT ASSY USED ON
APPLICATION

80045
DAAB07-71-C-0319
ELECTRONICS COMMAND

REVIEWED
APPROVED
DATE 14 MAY 1973

U. S. ARMY ELECTRONICS COMMAND
PROCUREMENT AND PRODUCTION DIRECTORATE
FORT MONMOUTH NEW JERSEY 07703

SCHEMATIC DIAGRAM,
UPPER LOOP DIVIDER

SIZE D | CODE IDENT NO. 80063 | SM-D-745865

SCALE NONE | SHEET

WHEN REFERRING TO THIS DRAWING STATE DRAWING NO., APPLICABLE ISSUE LETTER IF ANY, AND DATE

NOTE
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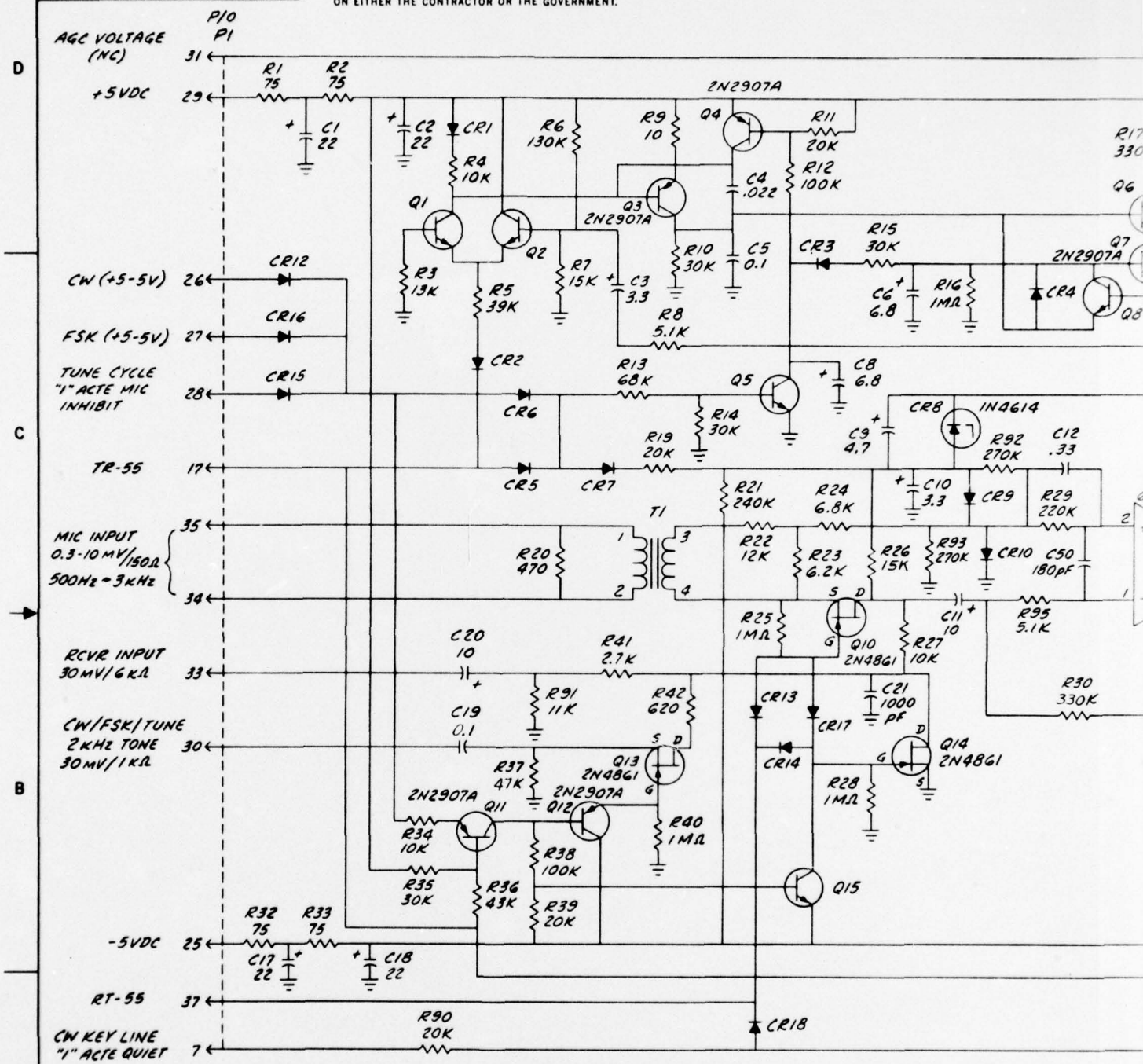
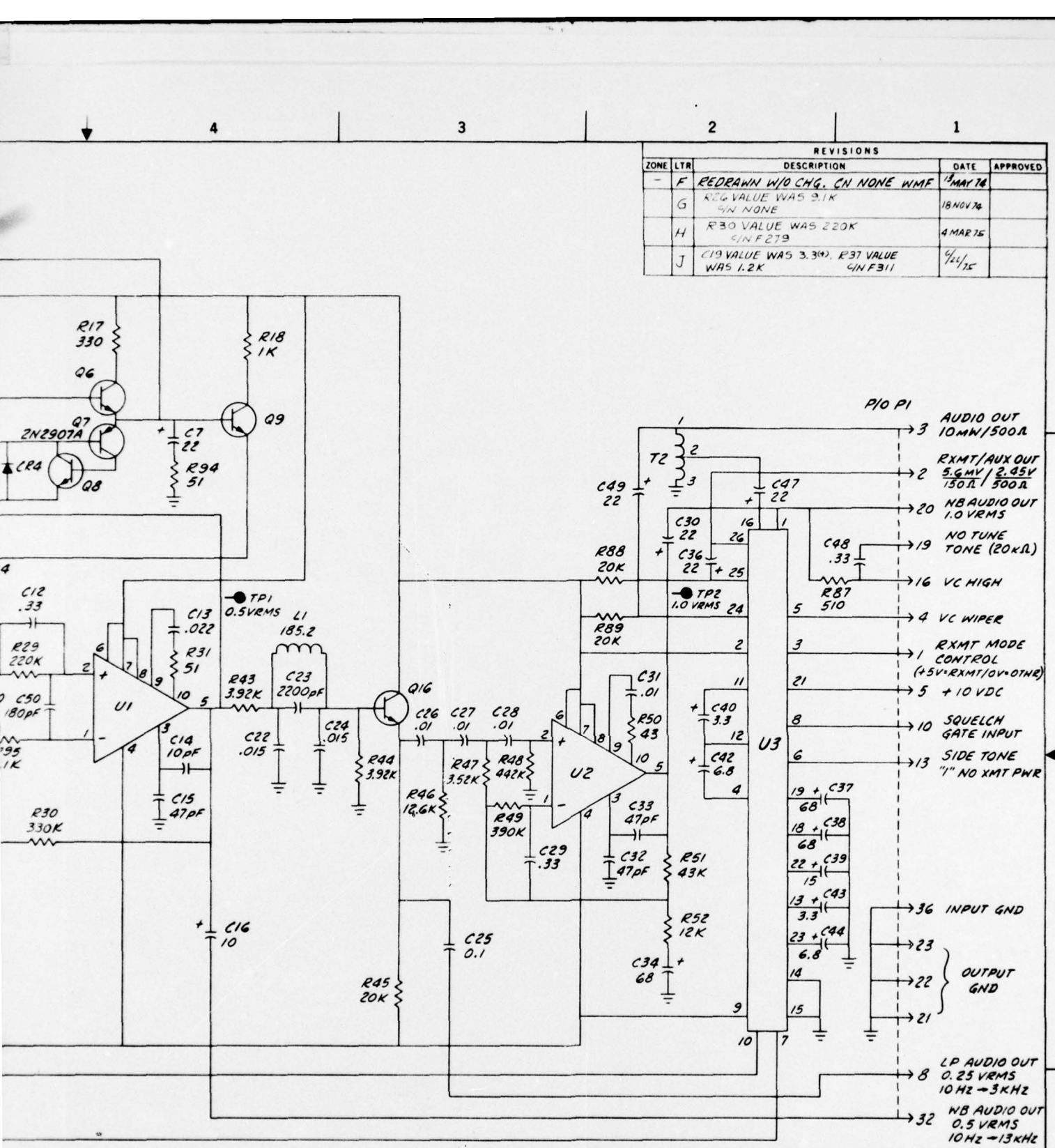


NOTES:

1. COMPONENT VALUES ARE IN OHMS, MICROFARADS, OR MILLIHENRIES UNLESS OT
2. PREFIX REF DESIGNATION OF PART WITH UNIT NO. TO COMPLETE LOCATIONAL RE
3. ALL TRANSISTORS ARE TYPE 2N2222A, ALL DIODES TYPE 1N4148 UNLESS OTHERWI

UNIT NO 1A1A23



FIND NO.	QTY REQD	CODE IDENT	PART NO. OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	NOTE

PARTS LIST

IRIES UNLESS OTHERWISE SPECIFIED.
LOCATIONAL REF DESIGNATION.
UNLESS OTHERWISE SPECIFIED.

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES ON:
FRACTIONS DECIMALS ANGLES
— — —

MATERIAL:

SM-D-745612	QLSM-8-766369
NEXT ASSY	USED ON
APPLICATION	

80045
DAAB07-71-C-0319
ELECTRONICS COMMAND

U. S. ARMY ELECTRONICS COMMAND
PROCUREMENT AND PRODUCTION DIRECTORATE
FORT MONMOUTH NEW JERSEY 07703

SCHEMATIC DIAGRAM, AUDIO

REVIEWED
APPROVED
DATE 14 MAY 1973

SIZE D | CODE IDENT NO. 80063 | SM-D-745867
SCALE NONE | SHEET

WHEN REFERRING TO THIS DRAWING STATE DRAWING NO., APPLICABLE ISSUE LETTER IF ANY, AND DATE

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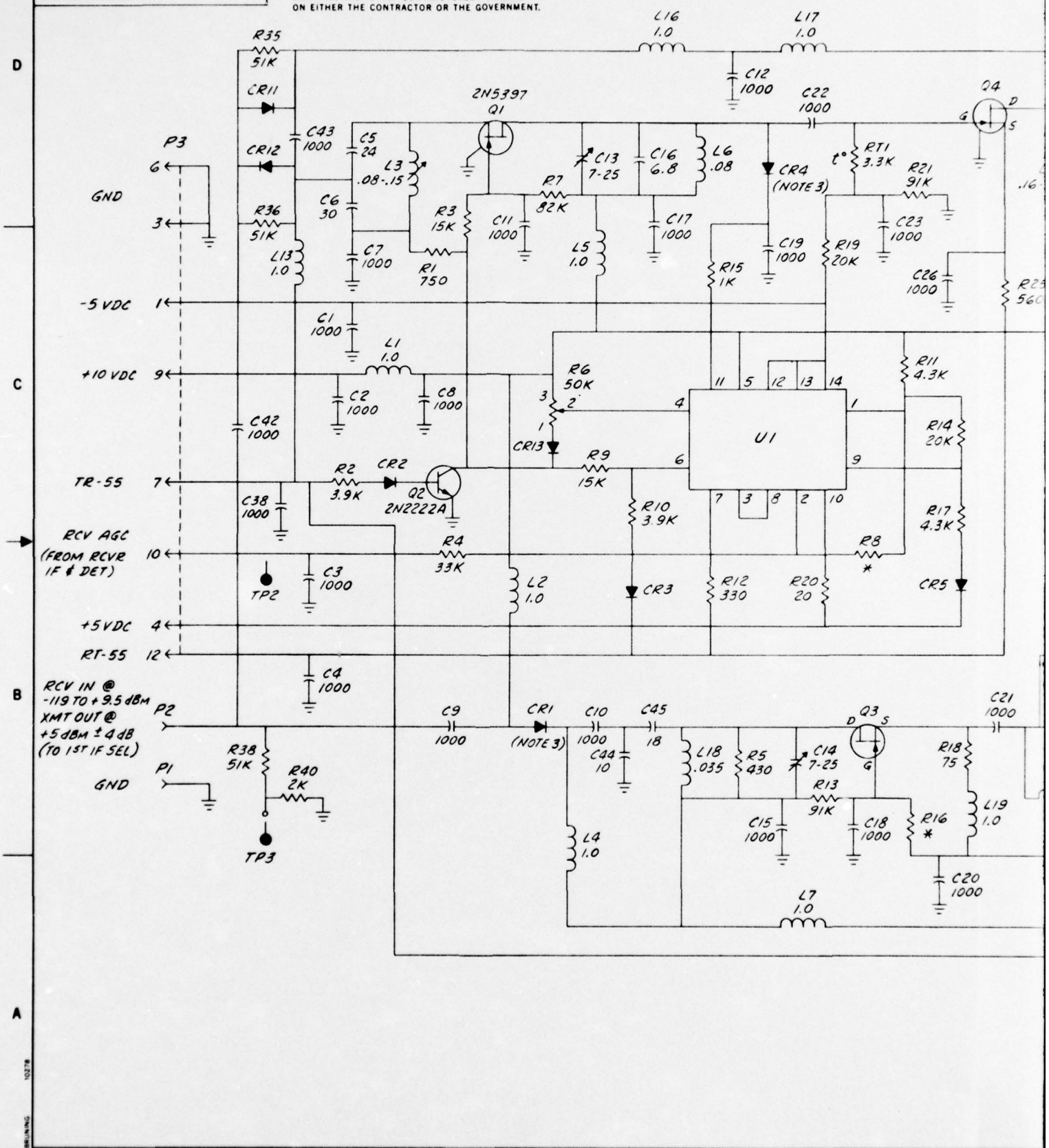
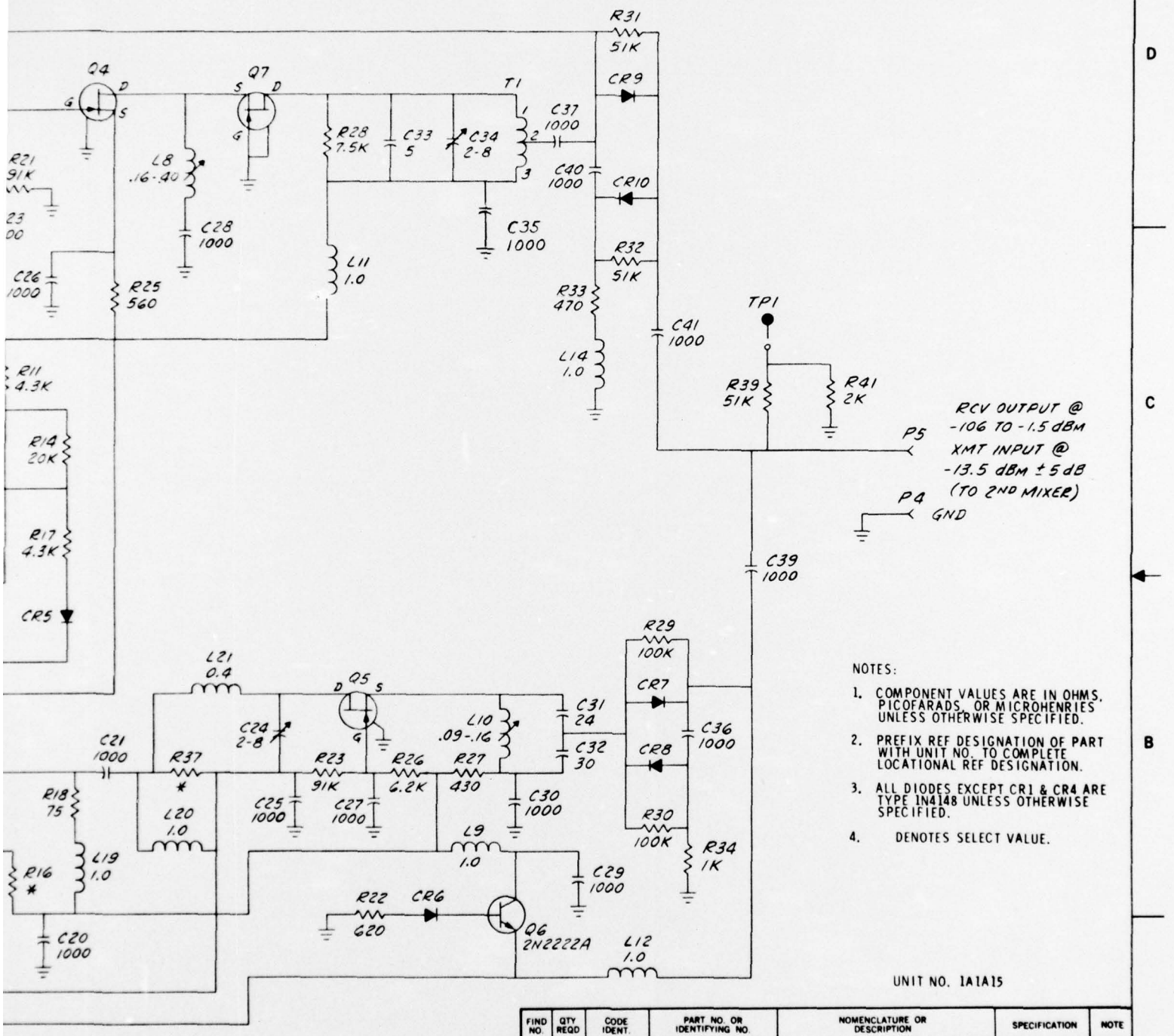


REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
-	C	REDRAWN W/O CHG. CN NONE. WMF	25 JUL 74	



NOTES:

1. COMPONENT VALUES ARE IN OHMS, PICOFARADS, OR MICROHENRIES UNLESS OTHERWISE SPECIFIED.
2. PREFIX REF DESIGNATION OF PART WITH UNIT NO. TO COMPLETE LOCATIONAL REF DESIGNATION.
3. ALL DIODES EXCEPT CR1 & CR4 ARE TYPE 1N4148 UNLESS OTHERWISE SPECIFIED.
4. * DENOTES SELECT VALUE.

UNIT NO. 1A1A15

FIND NO.	QTY REQD	CODE IDENT.	PART NO. OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	NOTE

PARTS LIST

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES ON:
FRACTIONS DECIMALS ANGLES

MATERIAL:

NEXT ASSY: SM-D-745618 | USED ON: DLSM-B746361

APPLICATION

80045
DAAB07-71-C-0319

ELECTRONICS COMMAND

REVIEWED

APPROVED

DATE 7 MAY 1973

U. S. ARMY ELECTRONICS COMMAND
PROCUREMENT AND PRODUCTION DIRECTORATE
FORT MONMOUTH NEW JERSEY 07703

SCHEMATIC DIAGRAM, FIRST IF AGC & GAIN

SIZE	CODE IDENT NO.	
D	80063	SM-D-745871

SCALE NONE SHEET

WHEN REFERRING TO THIS DRAWING STATE DRAWING NO., APPLICABLE ISSUE LETTER IF ANY, AND DATE

2

NOTE
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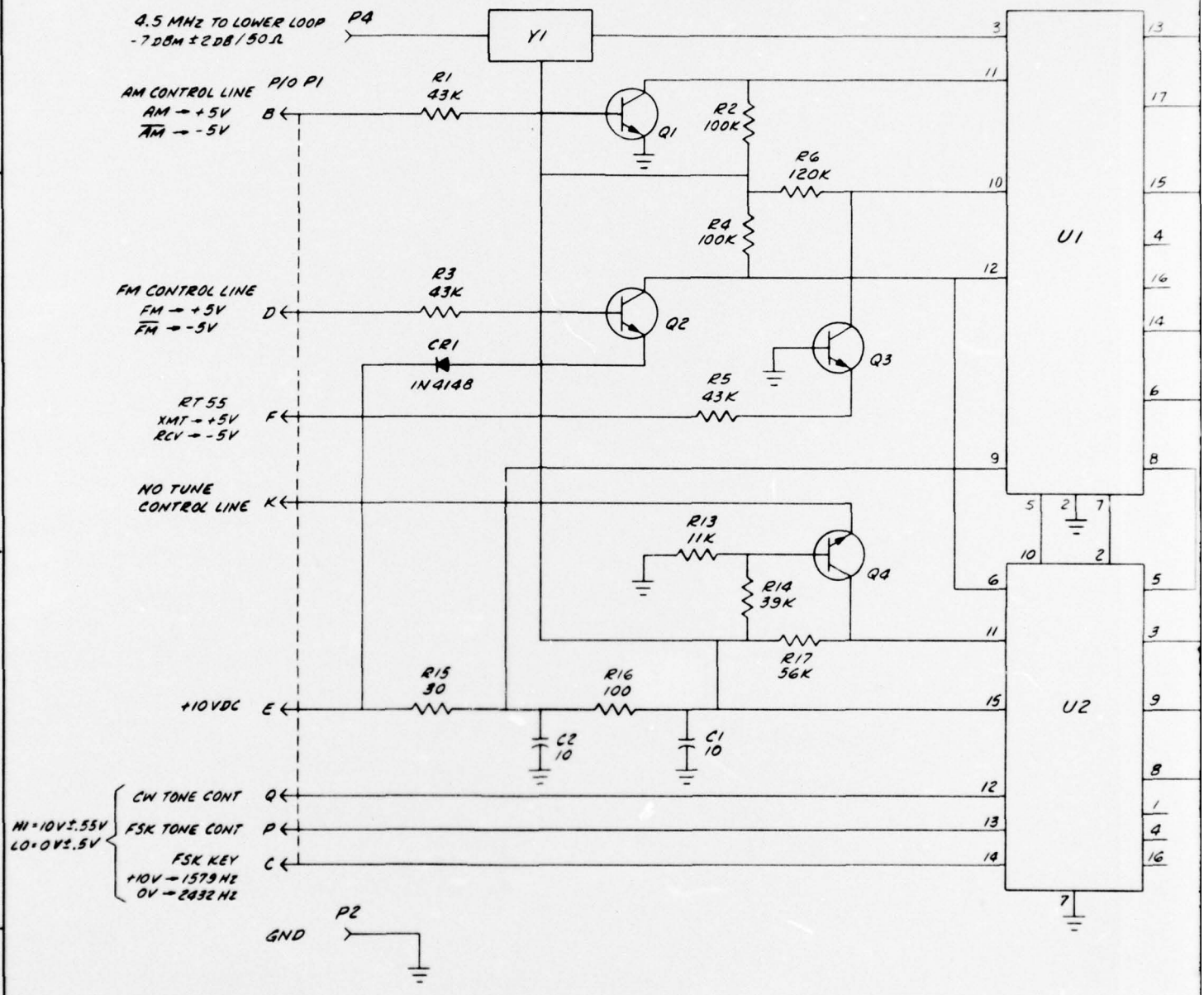
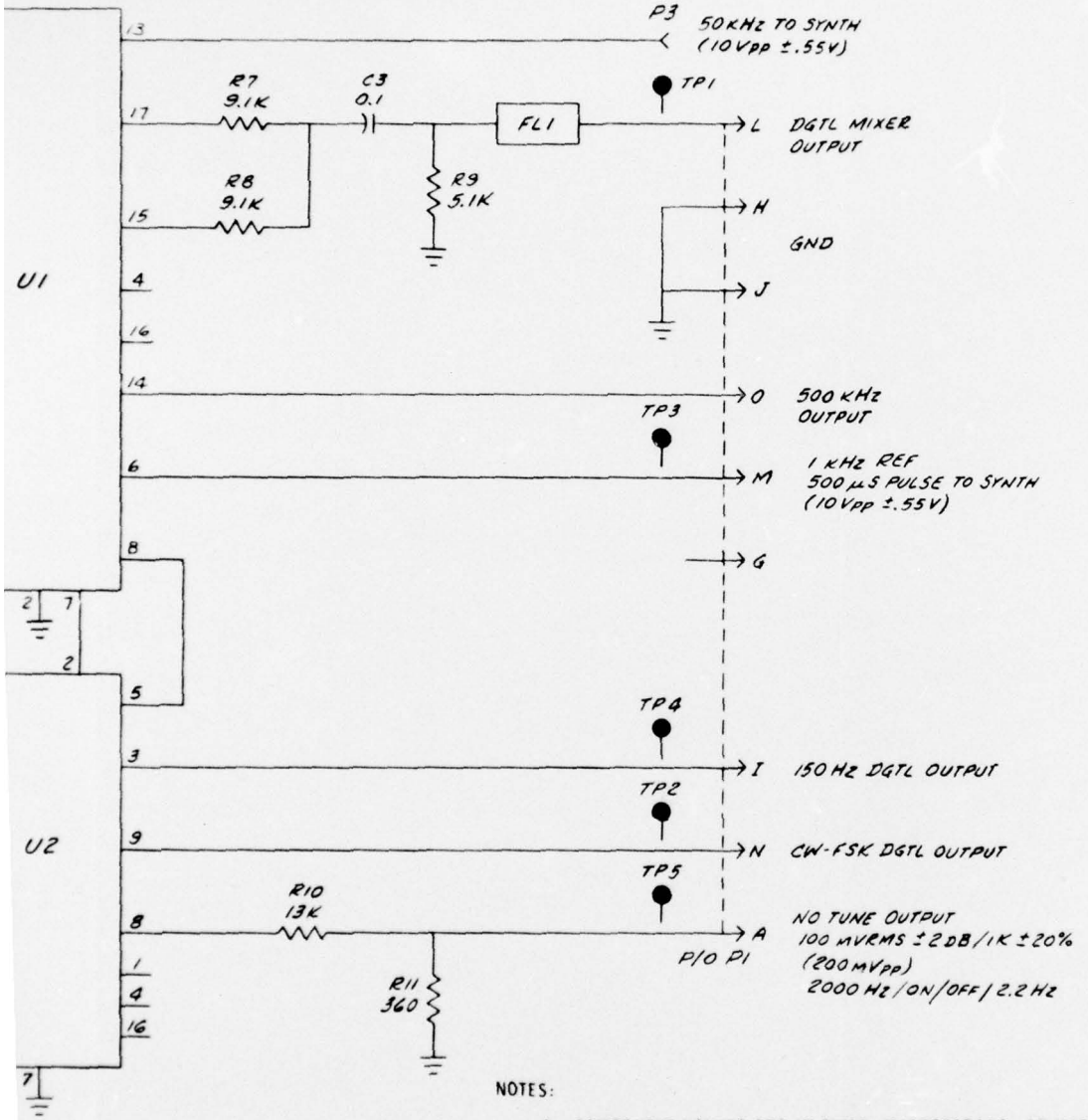


REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
—	F	REDRAWN W/O CHG. CN NONE WMF	9APR76	
	G	DELETED POWER SUPPLY SYNC TO PIN G	22APR76	



NOTES:

1. COMPONENT VALUES ARE IN OHMS, MICROFARADS, OR MICROHENRIES UNLESS OTHERWISE SPECIFIED.
2. PREFIX REF DESIGNATION OF PART WITH UNIT NO. TO COMPLETE LOCATIONAL REF DESIGNATION.
3. ALL TRANSISTORS ARE TYPE 2N2222A UNLESS OTHERWISE SPECIFIED.

UNIT NO. 1A1A11

FIND NO.	QTY REQD	CODE IDENT.	PART NO. OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	NOTE

PARTS LIST

SM-D-745604	DLSM-B 746376
NEXT ASSY	USED ON
APPLICATION	

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES ON:
FRACTIONS — DECIMALS — ANGLES — —

MATERIAL:

80045
DAAB07-71-C-0319

ELECTRONICS COMMAND
REVIEWED
APPROVED
DATE 14 MAY 1973

U. S. ARMY ELECTRONICS COMMAND
PROCUREMENT AND PRODUCTION DIRECTORATE
FORT MONMOUTH NEW JERSEY 07703

SCHEMATIC DIAGRAM,
OSCILLATOR DIGITAL DIVIDER

SIZE	CODE IDENT NO.	
D	80063	SM-D-745880
SCALE NONE		SHEET

WHEN REFERRING TO THIS DRAWING STATE DRAWING NO., APPLICABLE ISSUE LETTER IF ANY, AND DATE

NOTE
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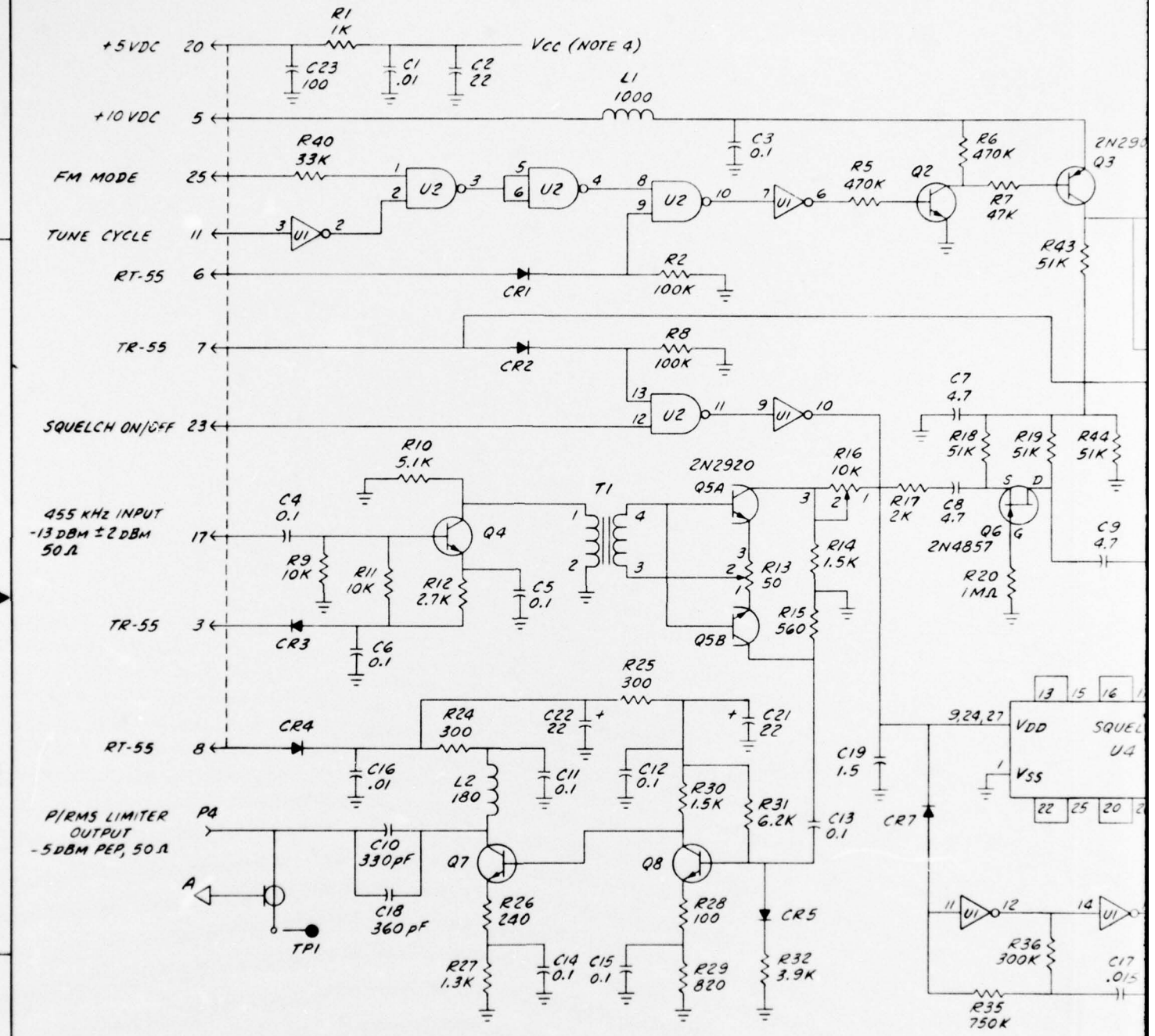
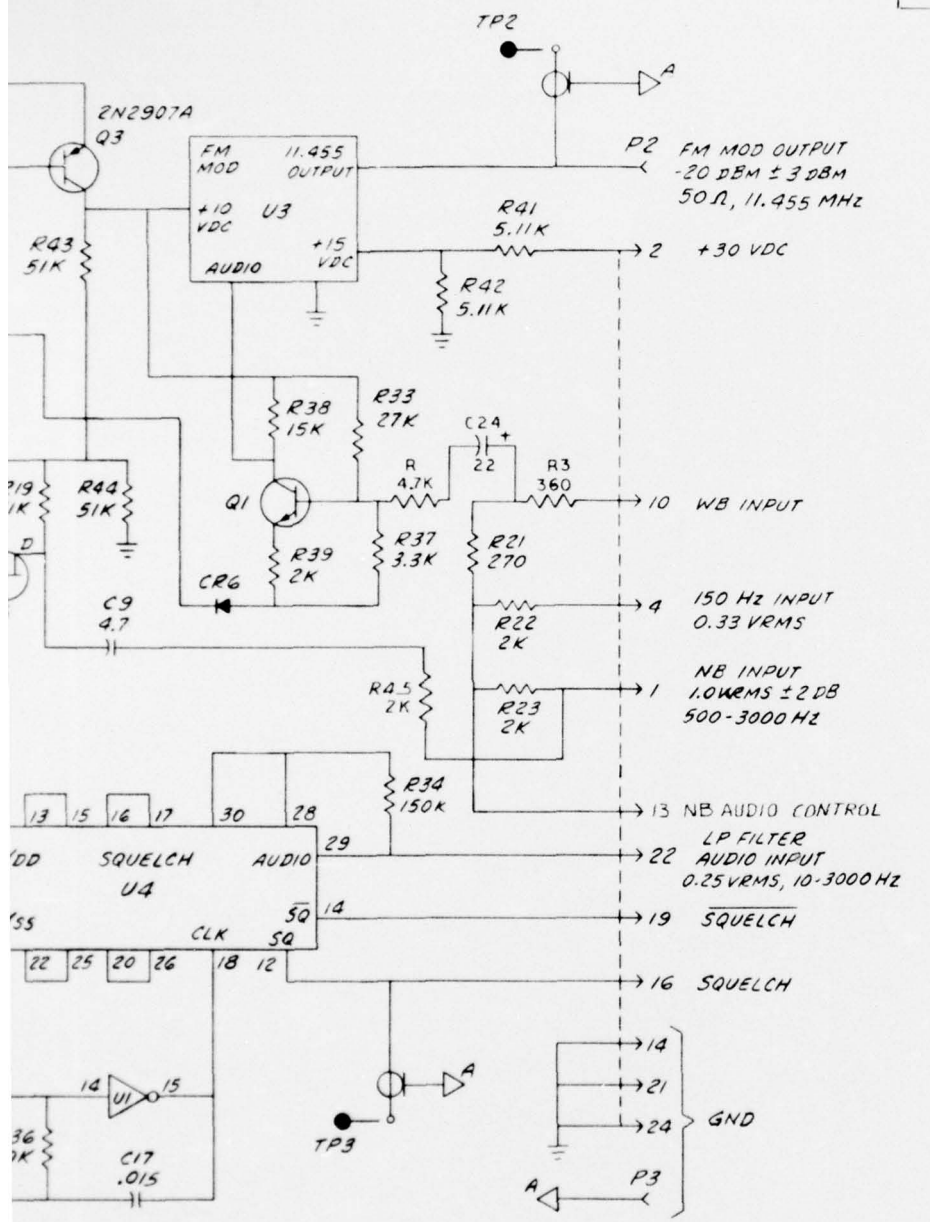


REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
–	E	REDRAWN W/O CHG. CN NONE WMF	16MAY74	
	F	C17 VALUE WAS .01 ADDED C24 CIRCUITRY REVISED C/N F237	16OCT74	
	G	ADDED R45 C/N F314	7/15/75	
	H	DELETED C20, CR7 WAS CONNECTED TO U1.12 C/N NONE	17MAR76	



NOTES:

1. COMPONENT VALUES ARE IN OHMS, MICROFARADS, OR MICROHENRIES UNLESS OTHERWISE SPECIFIED.
2. PREFIX REF DESIGNATION OF PART WITH UNIT NO. TO COMPLETE LOCATIONAL REF DESIGNATION.
3. ALL TRANSISTORS ARE TYPE 2N2222A. ALL DIODES TYPE 1N4148 UNLESS OTHERWISE SPECIFIED.
4. INTEGRATED CIRCUITS: V_{CC} (U1) = TERM NO. 1, 16
   (U2) = TERM NO. 14
   GND (U1) = TERM NO. 8, 5
   (U2) = TERM NO. 7

UNIT NO. 1A1A21

FIND NO.	QTY REQD	CODE IDENT	PART NO. OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	NOTE

PARTS LIST

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES ON:
FRACTIONS — DECIMALS — ANGLES

MATERIAL:

NEXT ASSY: SM-D-745614 | USED ON: SL-D-46311

APPLICATION

80045
DAAB07-71-C-0319

ELECTRONICS COMMAND

REVIEWED

APPROVED

DATE 15 APR 1973

U. S. ARMY ELECTRONICS COMMAND
PROCUREMENT AND PRODUCTION DIRECTORATE
FORT MONMOUTH NEW JERSEY 07703

SCHEMATIC DIAGRAM, MODULATOR/SQUELCH

SIZE D | CODE IDENT NO. 80063 | SM-D-745883

SCALE NONE | SHEET

WHEN REFERRING TO THIS DRAWING STATE DRAWING NO., APPLICABLE ISSUE LETTER IF ANY, AND DATE

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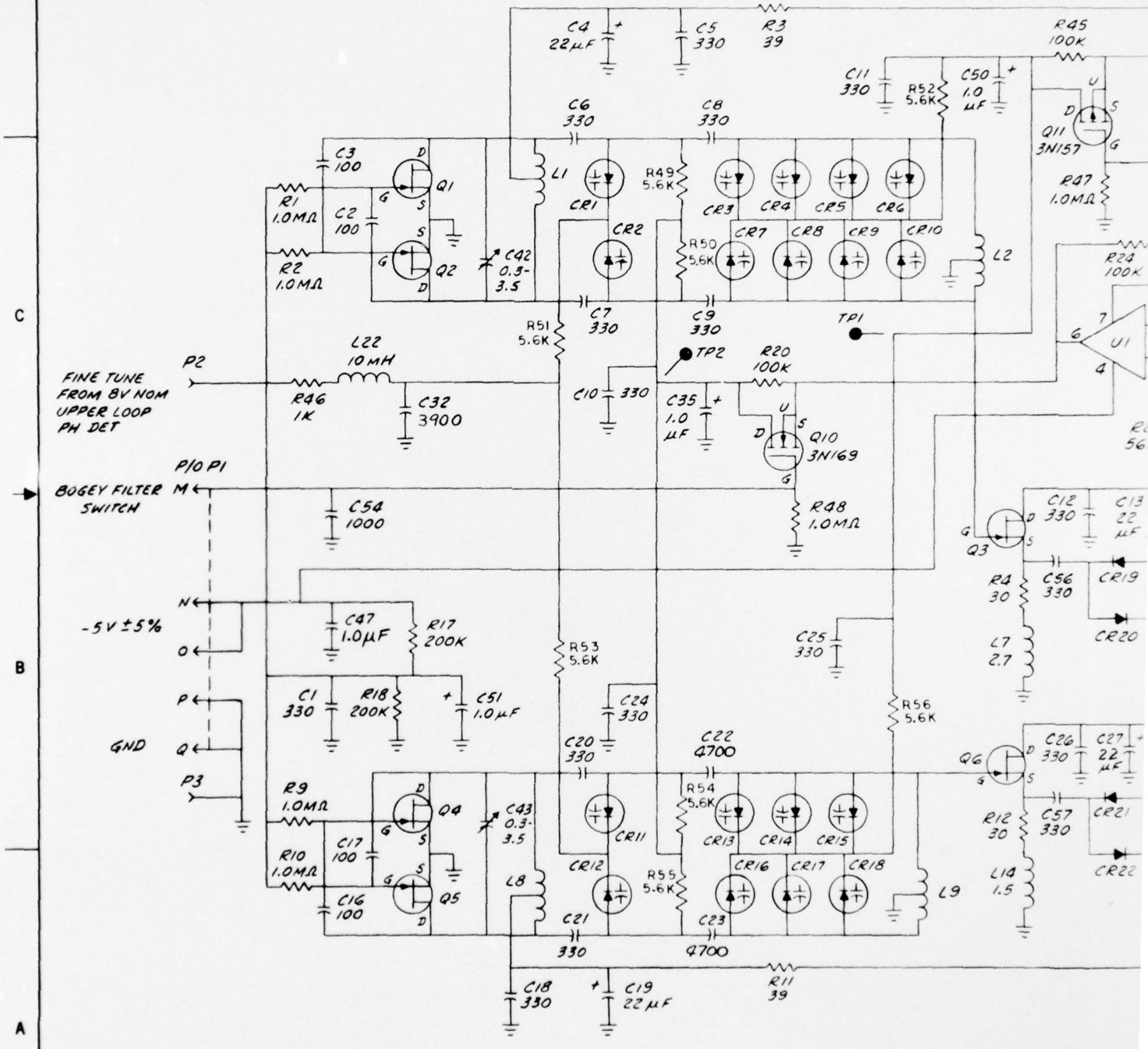

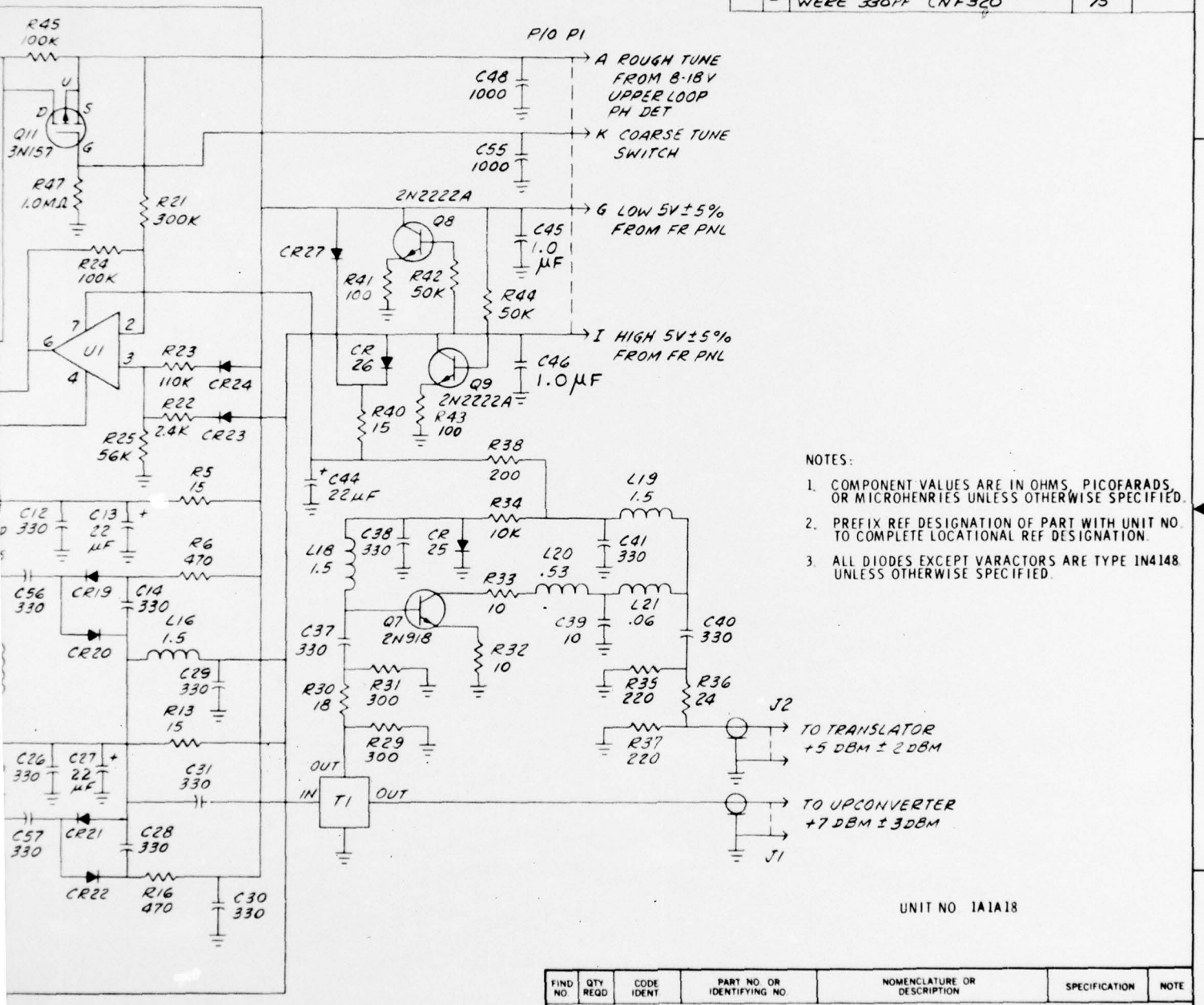

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
–	B	REDRAWN W/O CHG. CN NONE WMF	2MAY74	
	C	DELETED C34. VALUE C32 WAS 110, C45, C46 AND C47 WAS 1000 CN-F218 7-23-74		
	D	DELETED L3, L4, L5, L6, L10, L11, L12 L13 ADDED R49-R56, C58, C59 CN F211	3FEB75	
	E	DELETED C58, C59; C22 AND C23 WERE 330PF CN F320	2 SEP 75	

NOTES:

1. COMPONENT VALUES ARE IN OHMS, PICOFARADS, OR MICROHENRIES UNLESS OTHERWISE SPECIFIED.
2. PREFIX REF DESIGNATION OF PART WITH UNIT NO. TO COMPLETE LOCATIONAL REF DESIGNATION.
3. ALL DIODES EXCEPT VARACTORS ARE TYPE 1N4148 UNLESS OTHERWISE SPECIFIED.

UNIT NO 1A1A18

FIND NO.	QTY REQD	CODE IDENT	PART NO. OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	NOTE

PARTS LIST

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES ON: FRACTIONS DECIMALS ANGLES — — —	80045 DAAB07-71-C-0319
MATERIAL:	ELECTRONICS COMMAND
SM-D-745608 NEXT ASSY / DLSM-B-746379 USED ON	REVIEWED / APPROVED / DATE
APPLICATION	

U. S. ARMY ELECTRONICS COMMAND
PROCUREMENT AND PRODUCTION DIRECTORATE
FORT MONMOUTH NEW JERSEY 07703

SCHEMATIC DIAGRAM, PUMP VFO

SIZE	CODE IDENT NO.	
D	80063	SM-D-745888

SCALE NONE SHEET

WHEN REFERRING TO THIS DRAWING STATE DRAWING NO., APPLICABLE ISSUE LETTER IF ANY, AND DATE

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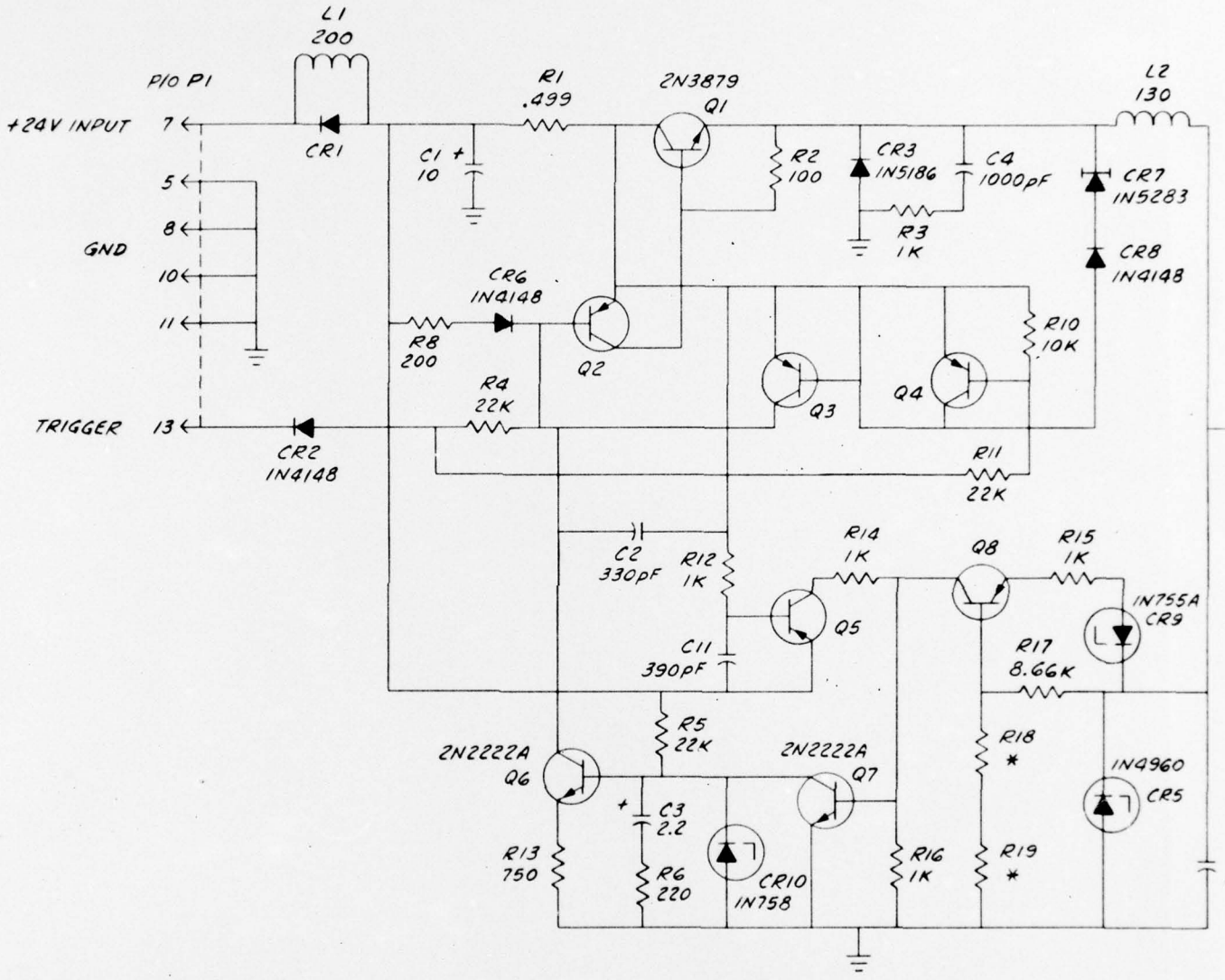
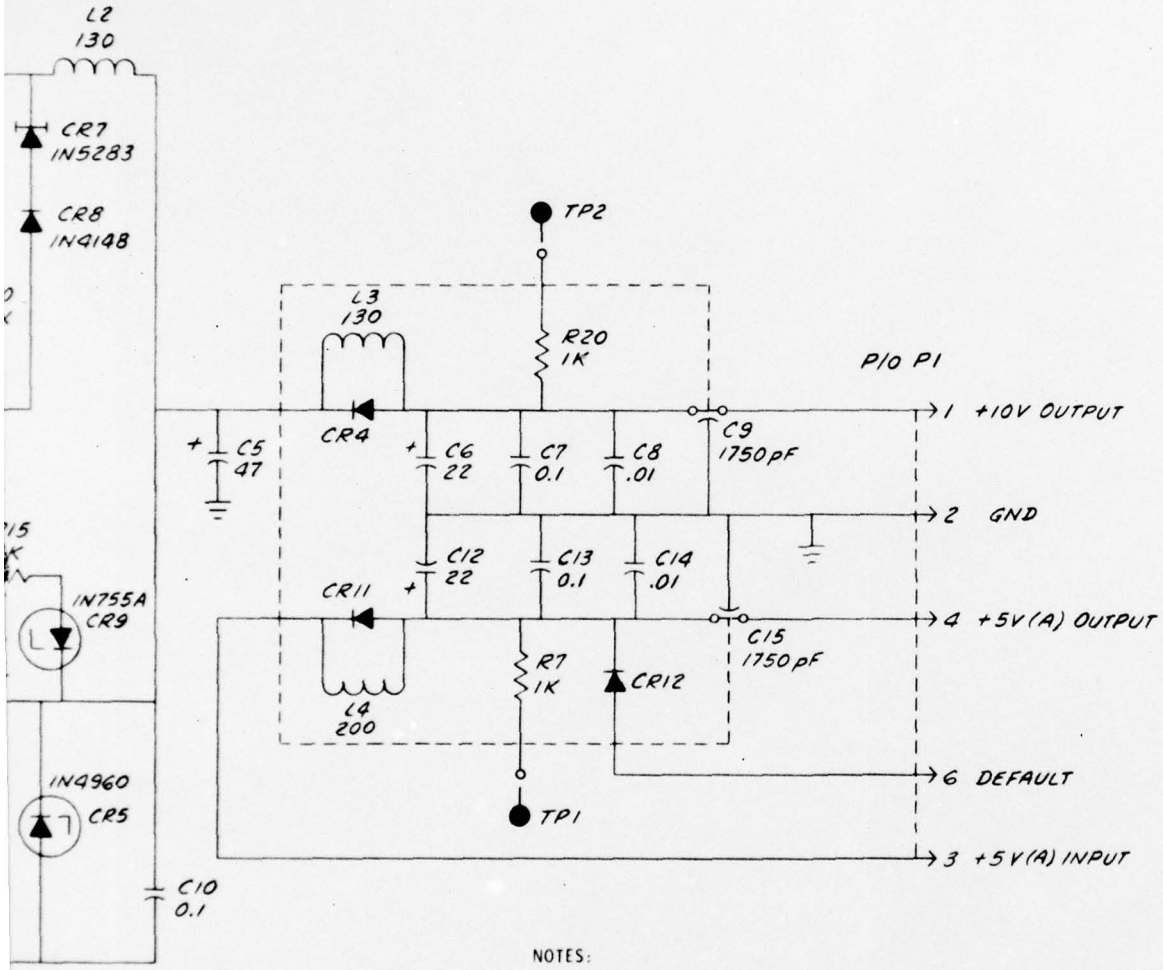


REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
–	A	REDRAWN W/O CHG. CN NONE. WMF	21MAY74	
	B	DELETED R3 CN NONE	7JAN75	



NOTES:

1. COMPONENT VALUES ARE IN OHMS, MICROFARADS, OR MICROHENRIES UNLESS OTHERWISE SPECIFIED.
2. PREFIX REF DESIGNATION OF PART WITH UNIT NO. TO COMPLETE LOCATIONAL REF DESIGNATION.
3. ALL TRANSISTORS ARE TYPE 2N2907A, ALL DIODES TYPE 1N3611 UNLESS OTHERWISE SPECIFIED.
4. * DENOTES SELECT VALUE.

UNIT NO. 1A1A4

FIND NO.	QTY REQD	CODE IDENT	PART NO. OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	NOTE

PARTS LIST

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES ON:
FRACTIONS DECIMALS ANGLES
— — —

MATERIAL:

SM-D-745756	DLSM-B-746374
NEXT ASSY	USED ON
APPLICATION	

80045
DAAB07-71-C-0319

U. S. ARMY ELECTRONICS COMMAND
PROCUREMENT AND PRODUCTION DIRECTORATE
FORT MONMOUTH NEW JERSEY 07703

SCHEMATIC DIAGRAM,
POWER SUPPLY, 10V REGULATOR

ELECTRONICS COMMAND

REVIEWED

APPROVED

DATE 15 APR 1972

SIZE D | CODE IDENT NO. 80063 | SM-D-745856

SCALE NONE | SHEET

WHEN REFERRING TO THIS DRAWING STATE DRAWING NO., APPLICABLE ISSUE LETTER IF ANY, AND DATE

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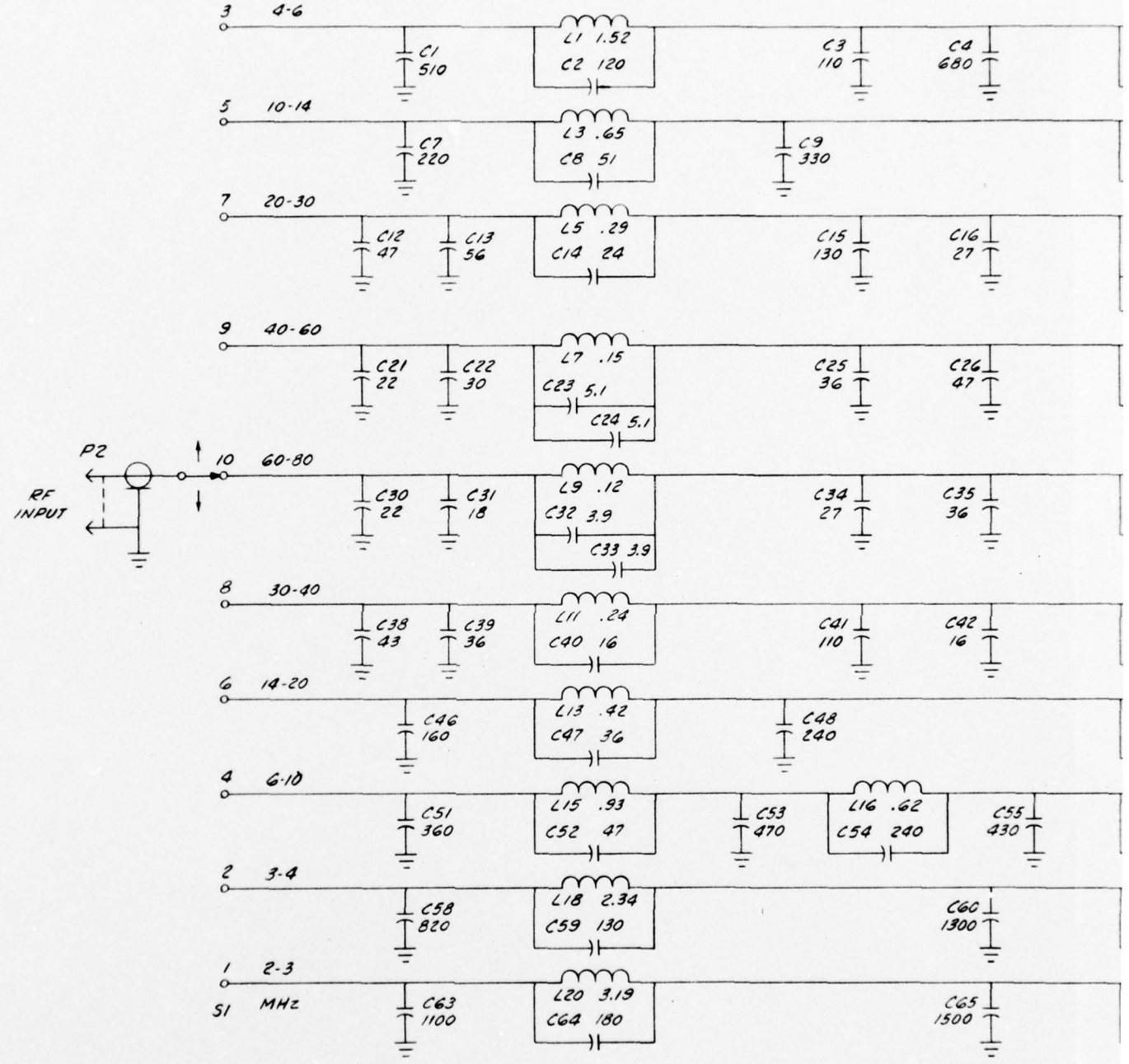
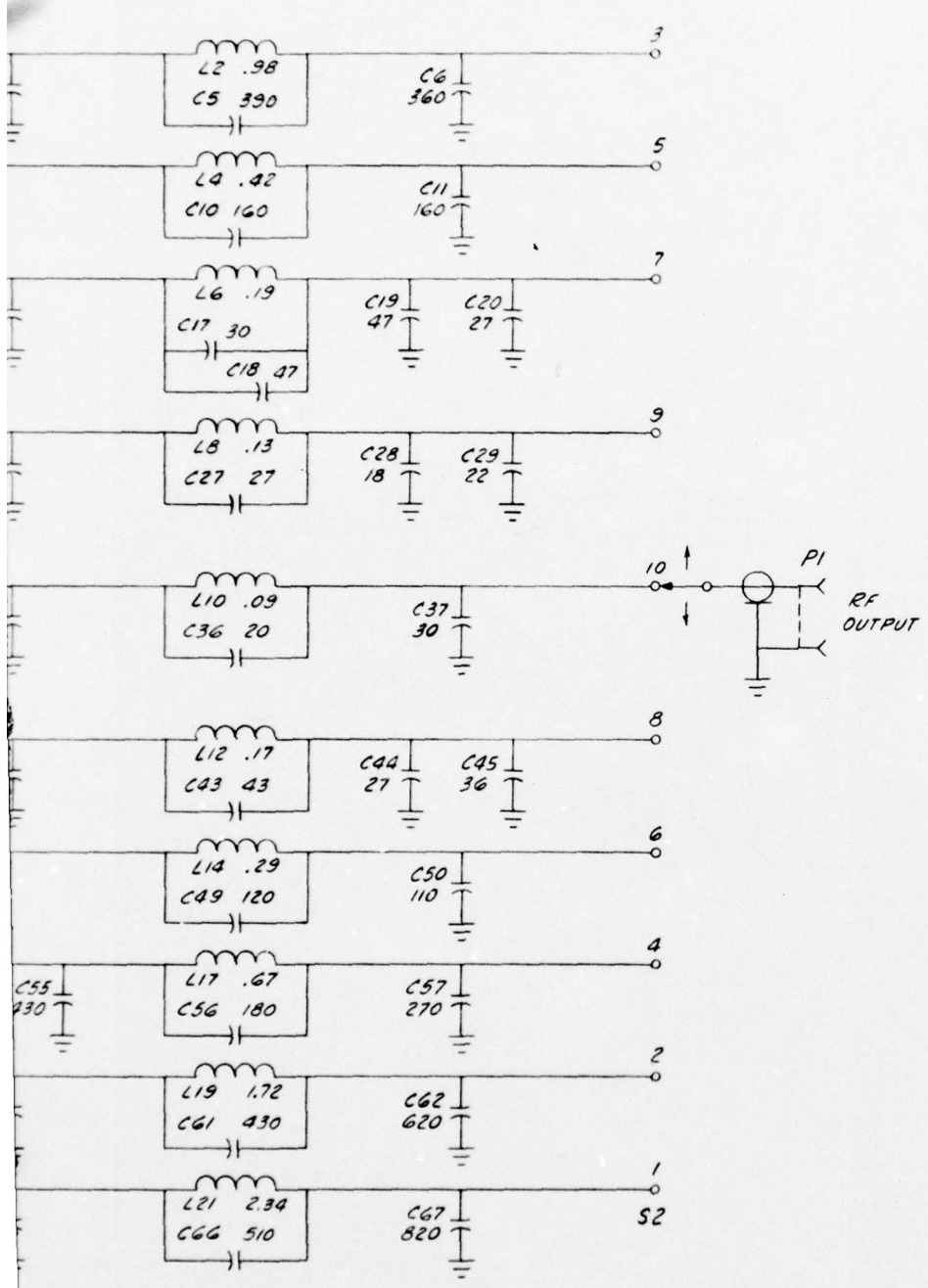


REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
—	A	REDRAWN W/O CHG. CH NONE MMF	10APR73	



NOTES:

1. COMPONENT VALUES ARE IN OHMS, PICOFARADS, OR MICROHENRIES UNLESS OTHERWISE SPECIFIED.
2. PREFIX REF DESIGNATION OF PART WITH UNIT NO. TO COMPLETE LOCATIONAL REF DESIGNATION.
3. S1 AND S2 ARE CONNECTED MECHANICALLY.

UNIT NO. 1A1A28

FIND NO.	QTY REQD	CODE IDENT	PART NO. OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	NOTE

PARTS LIST

SM-D-745629	DSMB-746356
NEXT ASSY	USED ON
APPLICATION	

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES ON:
FRACTIONS — DECIMALS — ANGLES

MATERIAL:

80045
DAAB07-71-C-0319

ELECTRONICS COMMAND

REVIEWED
APPROVED
DATE 10 APR 1973

U. S. ARMY ELECTRONICS COMMAND
PROCUREMENT AND PRODUCTION DIRECTORATE
FORT MONMOUTH NEW JERSEY 07703

SCHEMATIC DIAGRAM, FILTER

SIZE	CODE IDENT NO.	
D	80063	SM-D-745898

SCALE NONE SHEET

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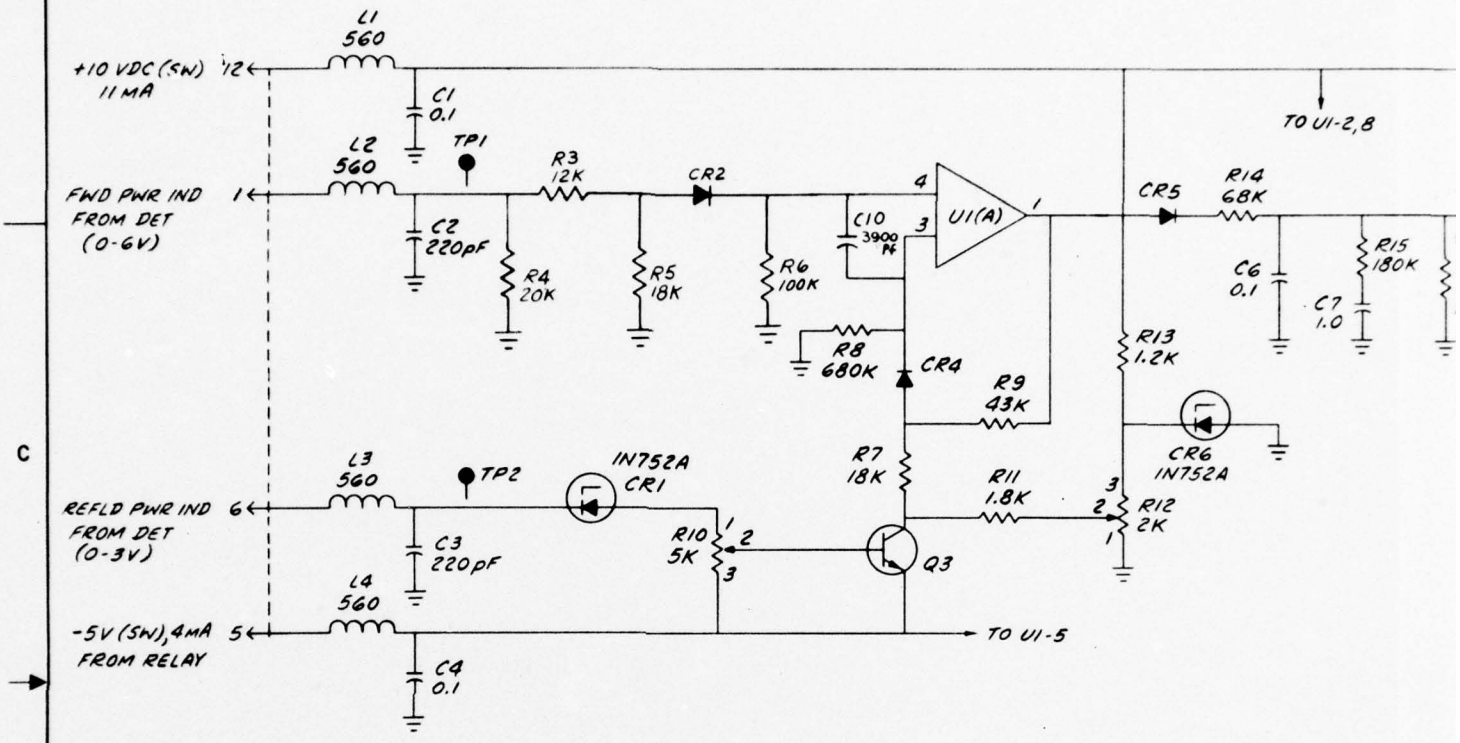
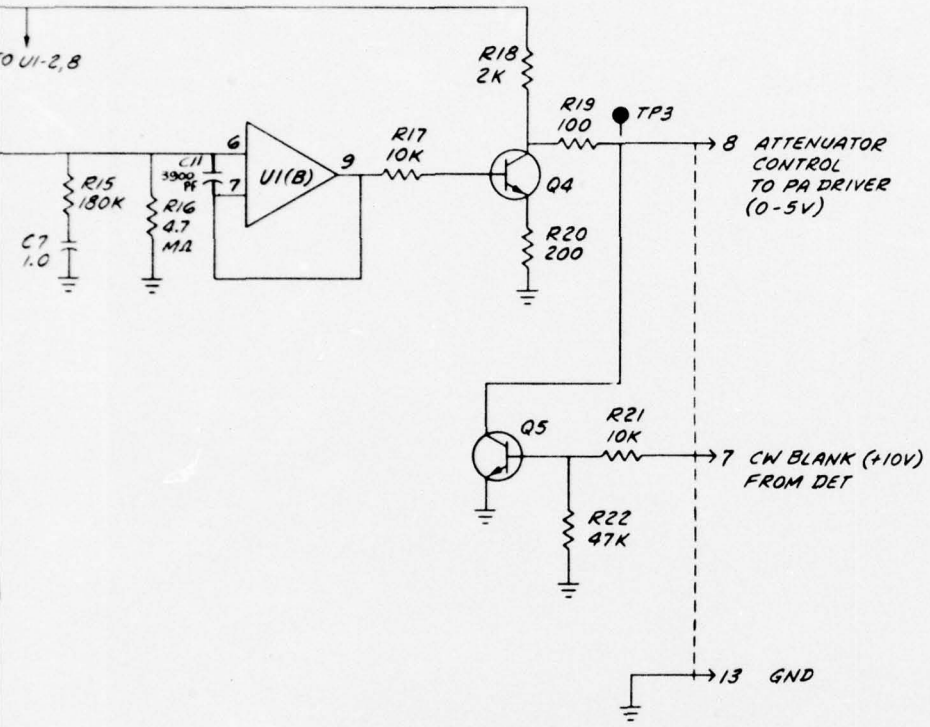


REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
-	D	REDRAWN W/O CHG. CN NONE. WMF	31 MAY 74	
	E	DELETED R28 CR7 & L5 ADDED C10 & C11 S/N F260	10 DEC 74	
	F	R3 VALUE WAS 20K S/N F273	11 FEB 75	
	G	DELETED R2 S/N F287	10 APR 75	
	H	REVISED WITH CHANGES S/N F302	6/17/75	



NOTES:

1. COMPONENT VALUES ARE IN OHMS, MICROFARADS OR MICROHENRIES UNLESS OTHERWISE SPECIFIED.
2. PREFIX REF DESIGNATION OF PART WITH UNIT NO. TO COMPLETE LOCATIONAL REF DESIGNATION.

   ALL TRANSISTORS ARE TYPE 2N2222A, ALL DIODES TYPE 1N4148 UNLESS OTHERWISE SPECIFIED.

UNIT NO. 1A1A25

FIND NO.	QTY REQD	CODE IDENT.	PART NO. OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	NOTE

PARTS LIST

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES ON: FRACTIONS DECIMALS ANGLES — — —	80045 DAAB07-71-C-0319
MATERIAL:	ELECTRONICS COMMAND
	REVIEWED
	APPROVED
	DATE

U. S. ARMY ELECTRONICS COMMAND
PROCUREMENT AND PRODUCTION DIRECTORATE
FORT MONMOUTH NEW JERSEY 07703

SCHEMATIC DIAGRAM, AUTOMATIC LEVEL CONTROL

SIZE	CODE IDENT NO.	
D	80063	SM-D-745902

SCALE NONE SHEET

SMD-745627	ULSM-B-746354
NEXT ASSY	USED ON
APPLICATION	

WHEN REFERRING TO THIS DRAWING STATE DRAWING NO., APPLICABLE ISSUE LETTER IF ANY, AND DATE

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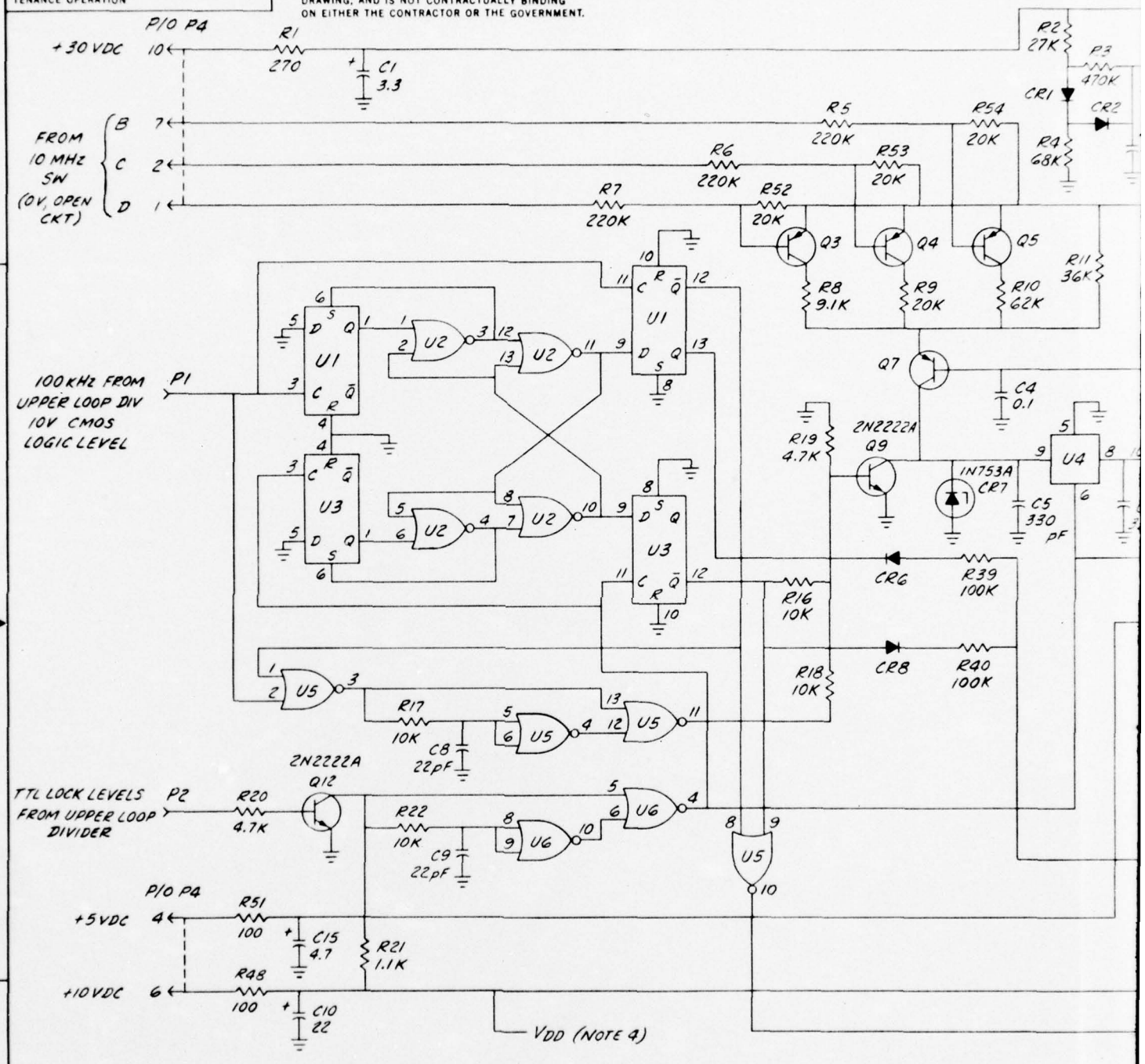

NOTES:

1. COMPONENT VALUES ARE IN OHMS, MICROFARADS, OR MILLIHENRIES UNLESS OT
2. PREFIX REF DESIGNATION OF PART WITH UNIT NO. TO COMPLETE LOCATIONAL RE
3. ALL TRANSISTORS ARE TYPE 2N2907A, ALL DIODES TYPE 1N4148 UNLESS OTHERWI
4. INTEGRATED CIRCUITS: V_{DD} (U1-U6) = TERM NO. 14
   GND (U1-U5) = TERM NO. 7
   (U6) = TERM NO. 1, 2, 7, 12, 13

UNIT NO. 1A1A8

FIND NO.	QTY REQD	CODE IDENT.	PART NO. OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	NOTE

PARTS LIST

IRIES UNLESS OTHERWISE SPECIFIED
LOCATIONAL REF DESIGNATION.
UNLESS OTHERWISE SPECIFIED.

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES ON:
FRACTIONS DECIMALS ANGLES
— — —

MATERIAL:
—

80045
DAAB07-71-C-0319

ELECTRONICS COMMAND

U. S. ARMY ELECTRONICS COMMAND
PROCUREMENT AND PRODUCTION DIRECTORATE
FORT MONMOUTH NEW JERSEY 07703

SCHEMATIC DIAGRAM, UPPER LOOP PHASE DETECTOR

NEXT ASSY	USED ON
SM-D-735610	SM-B-746381

APPLICATION

REVIEWED
APPROVED
DATE 10 MAY 1973

SIZE D | CODE IDENT NO. 80063 | SM-D-745920
SCALE NONE | SHEET

WHEN REFERRING TO THIS DRAWING STATE DRAWING NO., APPLICABLE ISSUE LETTER IF ANY, AND DATE

2

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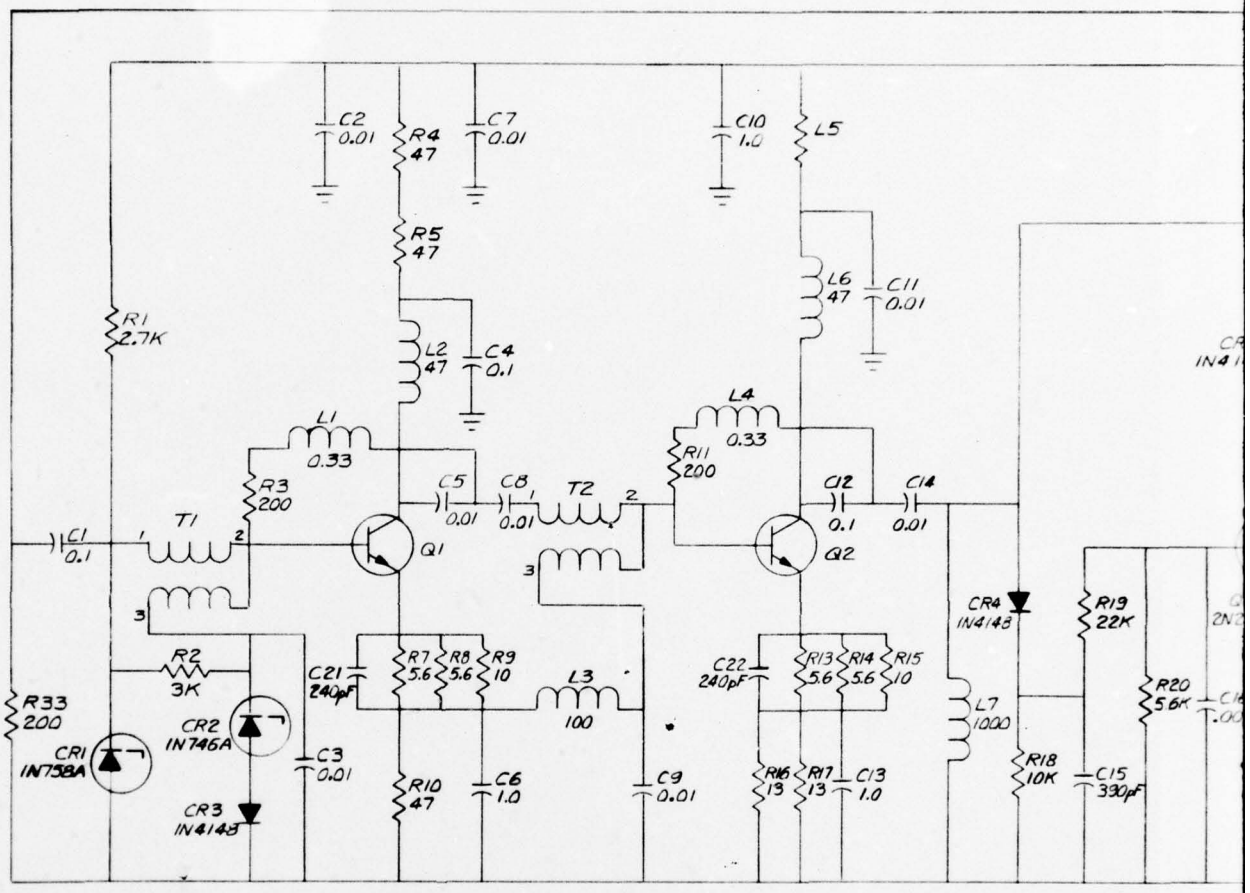
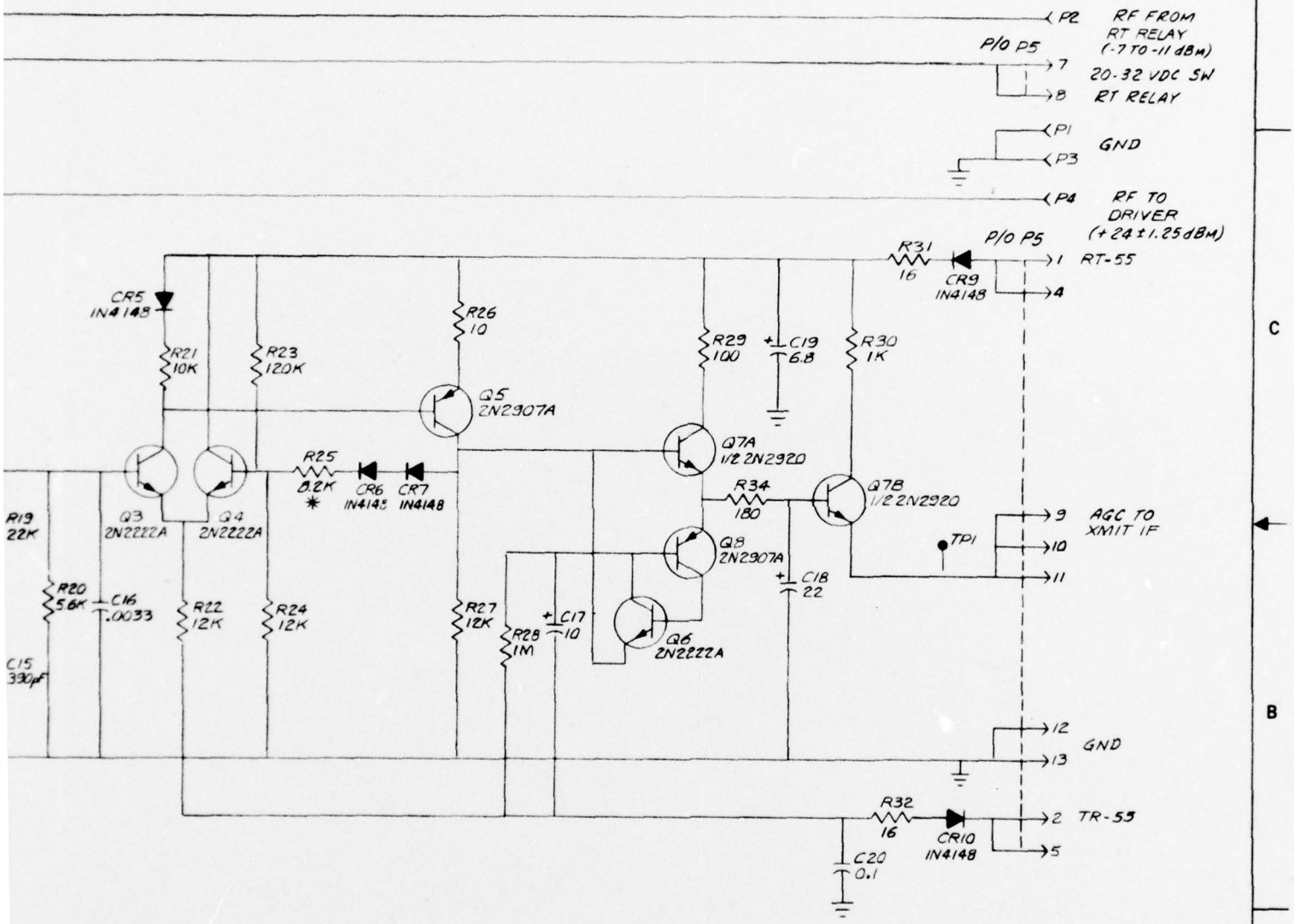


NOTES:

1. COMPONENT VALUES ARE IN OHMS, MICRO OR MICROHENRIES UNLESS OTHERWISE SP
2. PREFIX REF DESIGNATION OF PART WITH TO COMPLETE LOCATIONAL REF DESIGNATI
3. * DENOTES SELECT VALUE

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
	D	REDRAWN W/O CHANGES, CN NONE JNS	9 JAN 74	



UNIT 1A1A12

FIND NO.	QTY REQD	CODE IDENT.	PART NO. OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	NOTE

PARTS LIST

IN OHMS, MICROFARADS,
S OTHERWISE SPECIFIED.

OF PART WITH UNIT NO
REF DESIGNATION.

SMD 1213	DL4B 74520
NEXT ASSY	USED ON
APPLICATION	

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES ON:
FRACTIONS DECIMALS ANGLES

MATERIAL:

80045
DAAB07-71-C-0319

ELECTRONICS COMMAND
REVIEWED
APPROVED
DATE 15 MAY 74

U. S. ARMY ELECTRONICS COMMAND
PROCUREMENT AND PRODUCTION DIRECTORATE
FORT MONMOUTH NEW JERSEY 07703

SCHEMATIC DIAGRAM,
TRANSMIT BROADBAND

SIZE	CODE IDENT NO.	
D	80063	SM-D-745923

SCALE NONE SHEET

WHEN REFERRING TO THIS DRAWING STATE DRAWING NO., APPLICABLE ISSUE LETTER IF ANY, AND DATE

NOTE
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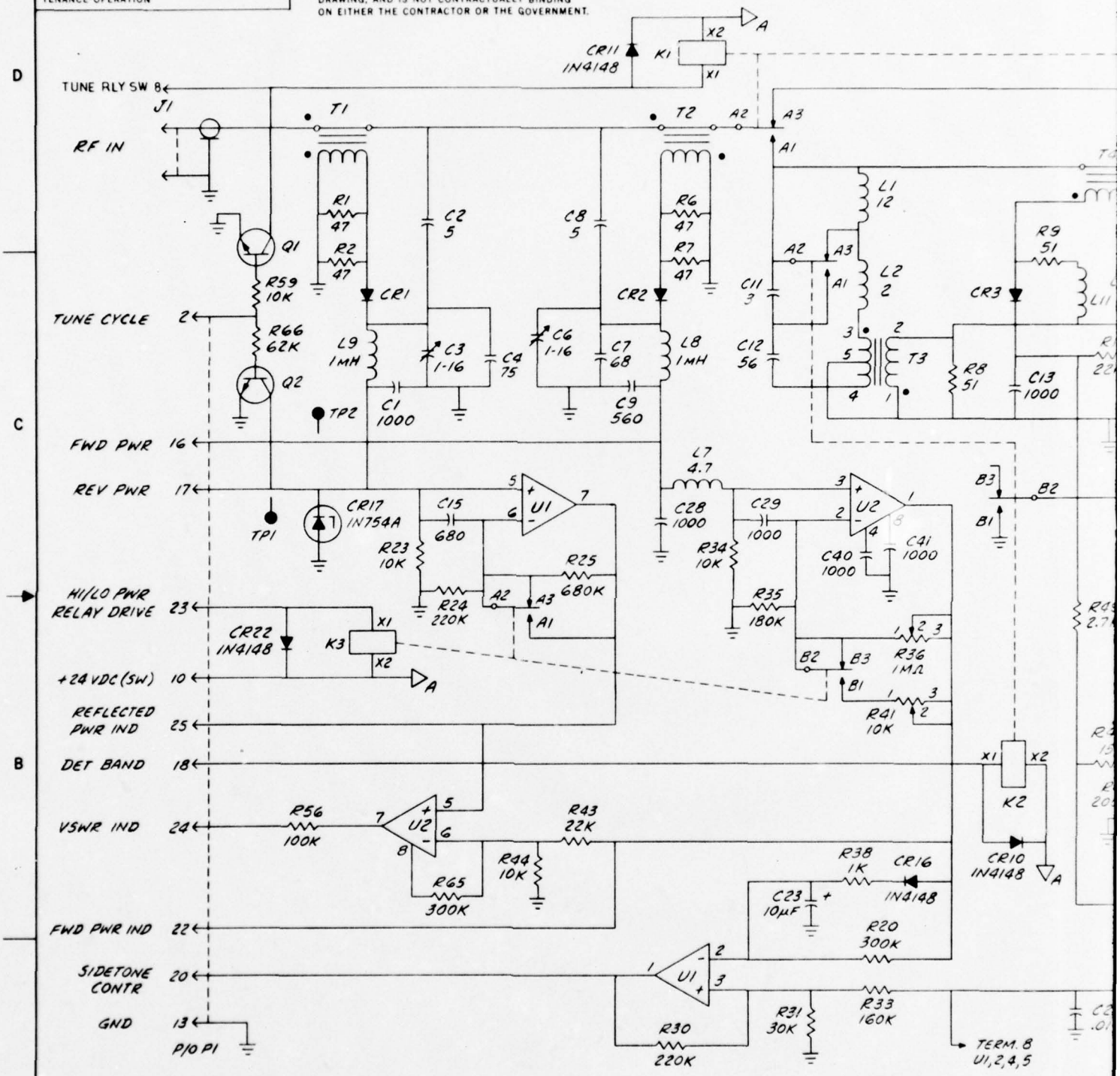
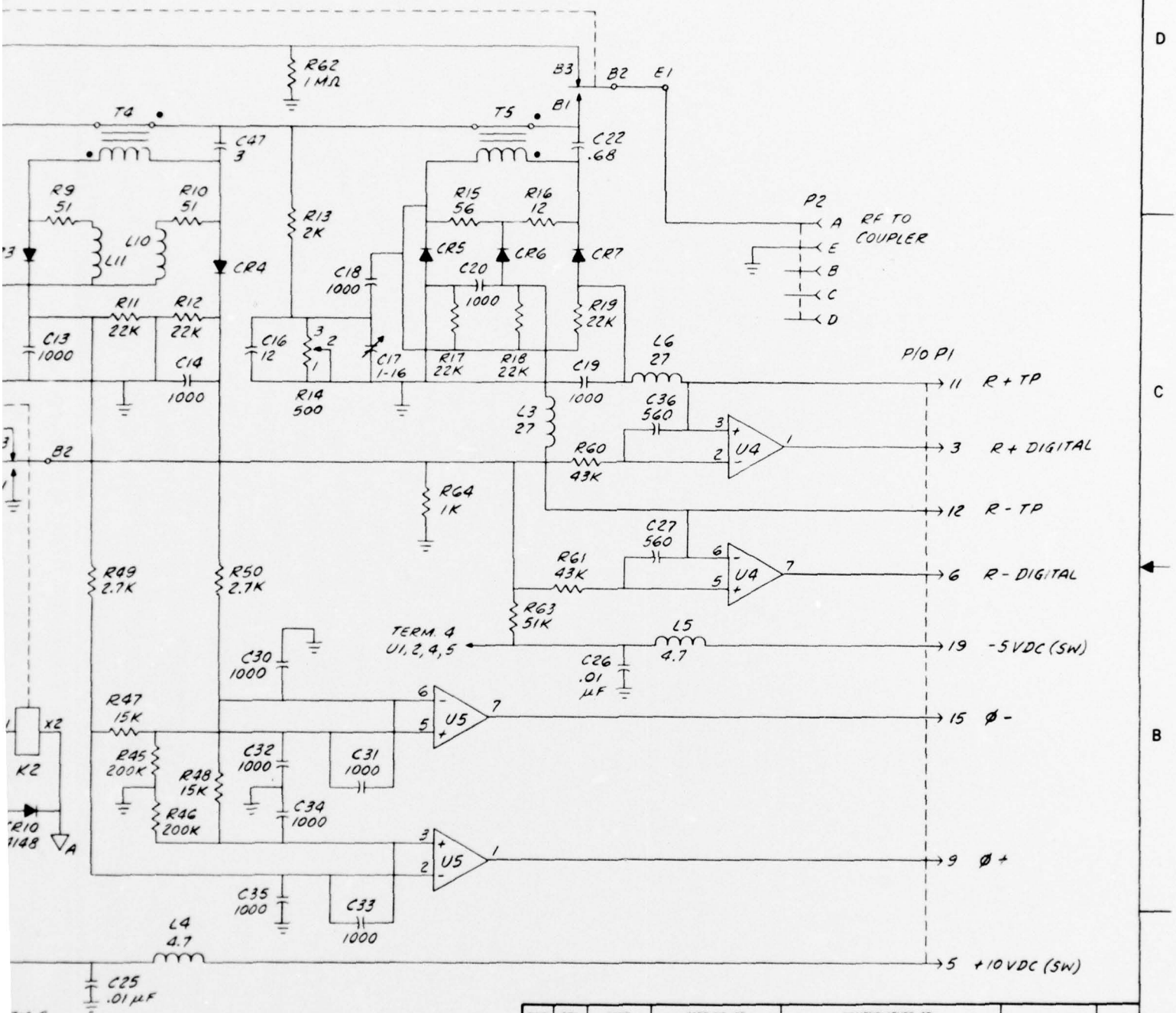


NOTES:

1. COMPONENT VALUES ARE IN OHMS, PICOFARADS, OR MICROHENRIES UNLESS OTH
2. PREFIX REF DESIGNATION OF PART WITH UNIT NO. TO COMPLETE LOCATIONAL RE
3. ALL TRANSISTORS ARE TYPE 2N2222A, ALL DIODES TYPE 1N5711 UNLESS OTHERW

UNI

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
–	C	REDRAWN W/O CHG. CN NONE. WMF	20 JUN 74	
	D	ADDED P/N & TUNE RANGE PER SCP 7N NONE	22 AUG 74	



FIND NO.	QTY REQD	CODE IDENT.	PART NO. OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	NOTE

PARTS LIST

RIES UNLESS OTHERWISE SPECIFIED.
E LOCATIONAL REF DESIGNATION.
UNLESS OTHERWISE SPECIFIED.

UNIT NO. IA1A27

SM-D-745628	DLSM-B746355
NEXT ASSY	USED ON
APPLICATION	

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES ON:
FRACTIONS DECIMALS ANGLES

MATERIAL:

80045
DAAB07-71-C-0319
ELECTRONICS COMMAND

REVIEWED
APPROVED
DATE 15 APR 1973

U. S. ARMY ELECTRONICS COMMAND
PROCUREMENT AND PRODUCTION DIRECTORATE
FORT MONMOUTH NEW JERSEY 07703

SCHEMATIC DIAGRAM, DETECTOR

SIZE	CODE IDENT NO.	
D	80063	SM-D-745935

SCALE NONE SHEET

WHEN REFERRING TO THIS DRAWING STATE DRAWING NO., APPLICABLE ISSUE LETTER IF ANY, AND DATE

2

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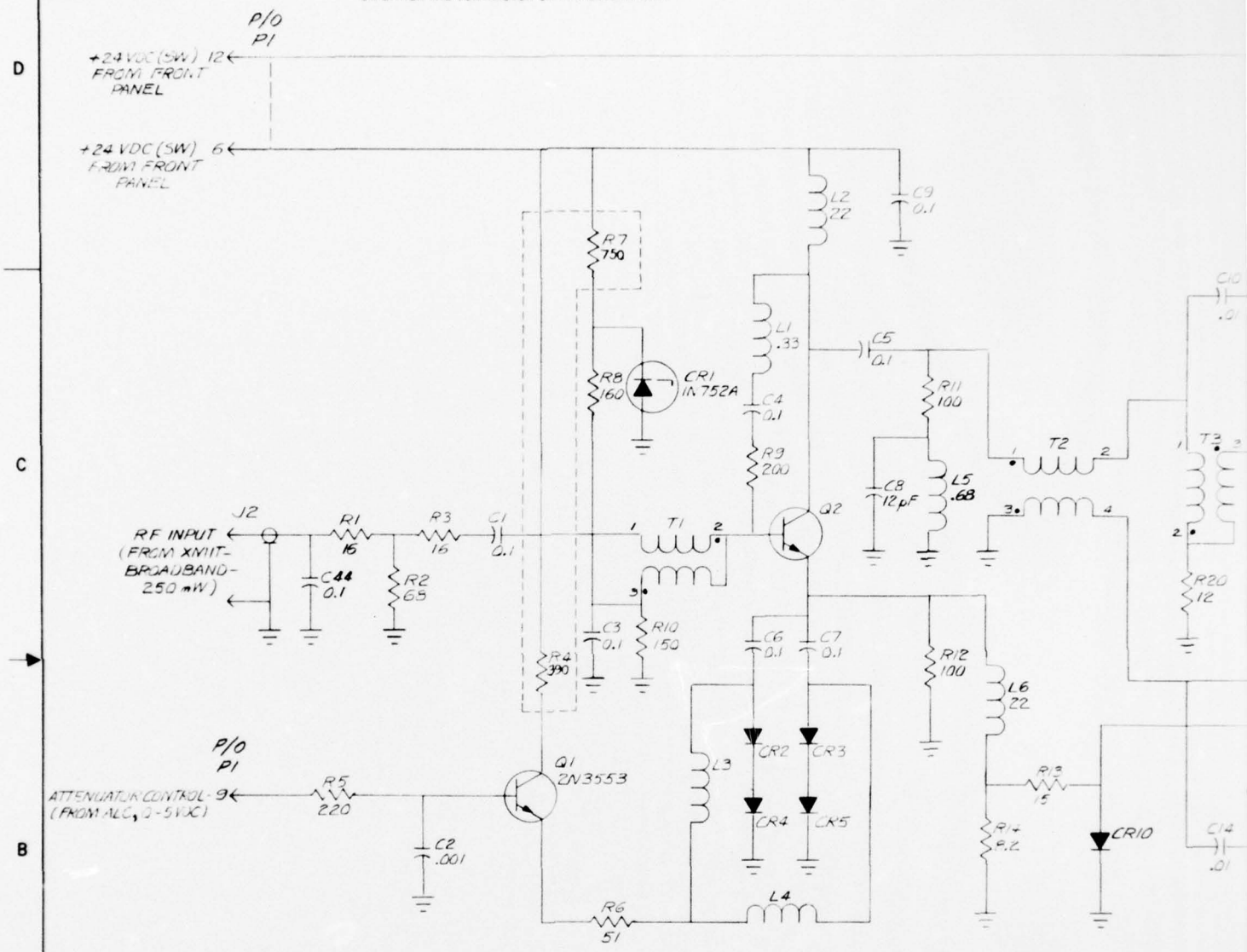
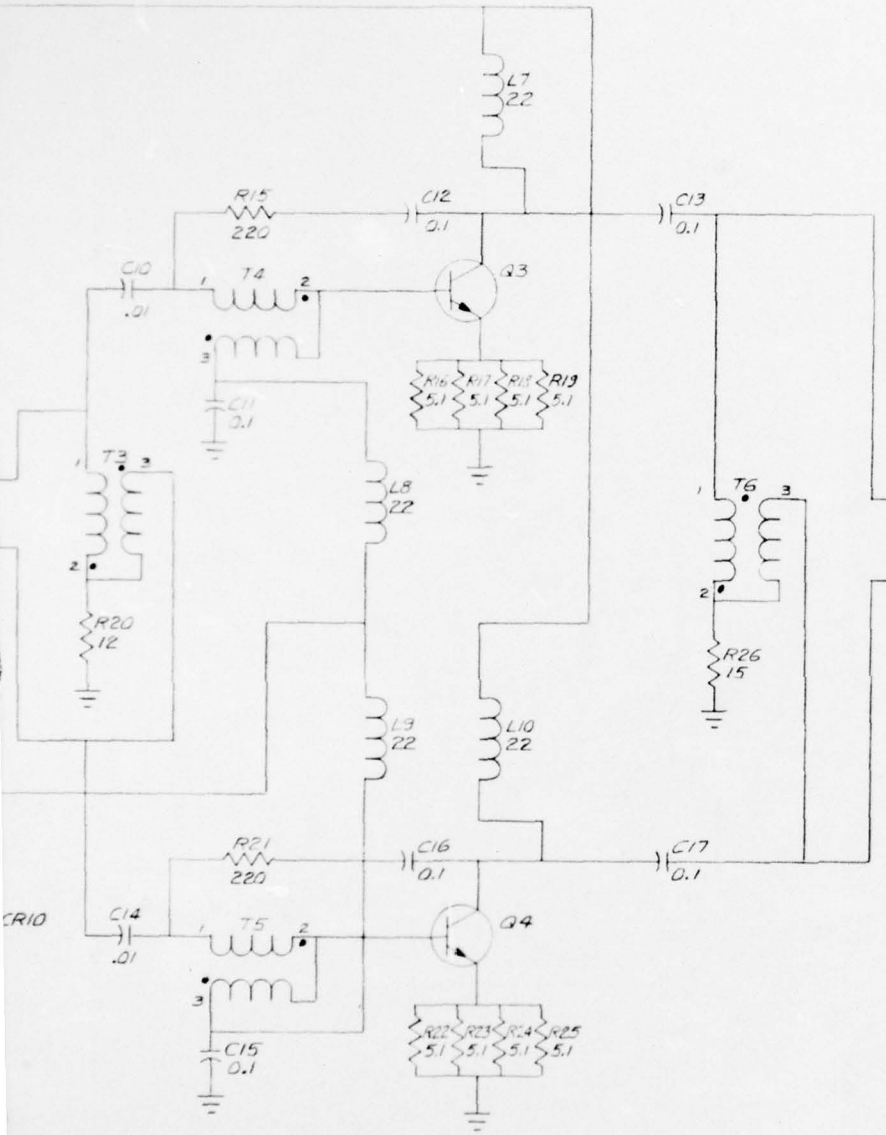
DATA MARKED WITH AN ASTERISK (*) IS PECULIAR TO A PRIOR MANUFACTURER. IT DOES NOT TAKE PRECEDENCE OVER ANY OTHER DATA ON THIS DRAWING, AND IS NOT CONTRACTUALLY BINDING ON EITHER THE CONTRACTOR OR THE GOVERNMENT.



REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
	C	RED-RAWN W/O CHANGE, CN NONE 145	5JAN74	
	D	REVISED	15APR76	



NOTES:

1. COMPONENT VALUES ARE IN OHMS, MICROFARADS OR MICROHENRIES UNLESS OTHERWISE SPECIFIED.
2. PREFIX REF DESIGNATION OF PART WITH UNIT NO. TO COMPLETE LOCATIONAL REF DESIGNATION.

UNIT NO. 1A1A29

FIND NO.	QTY REQD	CODE IDENT	PART NO. OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	NOTE

PARTS LIST

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON:
FRACTIONS DECIMALS ANGLES

MATERIAL:

SM-D-745940	DLSM-B-746358
NEXT ASSY	USED ON
APPLICATION	

80045
DAAB07-71-C-0319

ELECTRONICS COMMAND
REVIEWED
APPROVED
DATE

U. S. ARMY ELECTRONICS COMMAND
PROCUREMENT AND PRODUCTION DIRECTORATE
FORT MONMOUTH NEW JERSEY 07703

SCHEMATIC DIAGRAM,
DRIVER-POWER AMPLIFIER

SIZE D | CODE IDENT NO. 80063 | SM-D-745940

SCALE NONE | SHEET 1 OF 2

WHEN REFERRING TO THIS DRAWING STATE DRAWING NO., APPLICABLE ISSUE LETTER IF ANY, AND DATE

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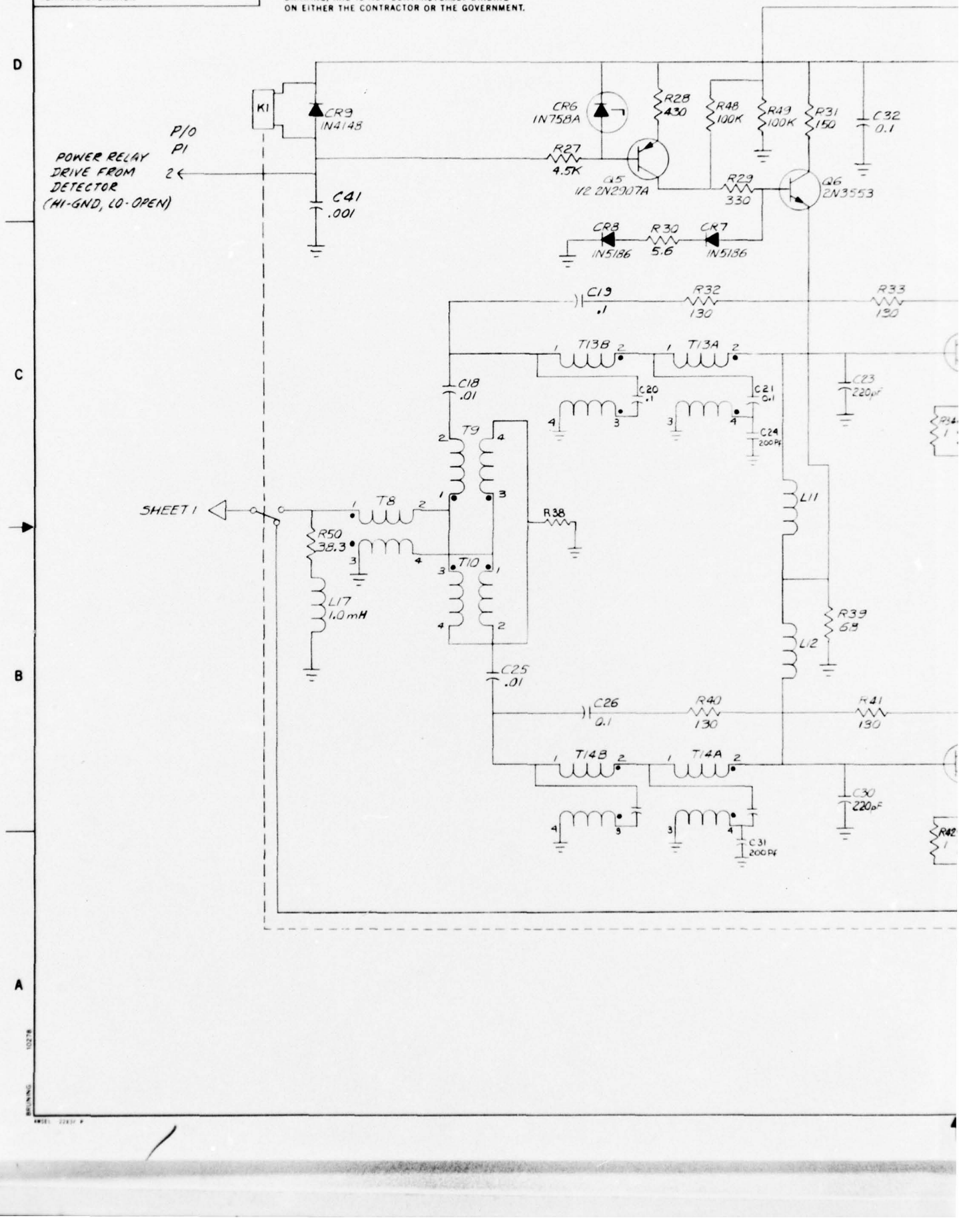

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
	C	REDRAWN W/O CHANGES, IN NONE JHS	7 JAN 74	
	D	REVISED	15 APR 76	

FIND NO.	QTY REQD	CODE IDENT.	PART NO. OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	NOTE

PARTS LIST

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES ON:
FRACTIONS DECIMALS ANGLES

MATERIAL:

NEXT ASSY | USED ON

APPLICATION

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FORT MONMOUTH NEW JERSEY 07703

ELECTRONICS COMMAND

REVIEWED

APPROVED

DATE

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SCALE | SHEET 2

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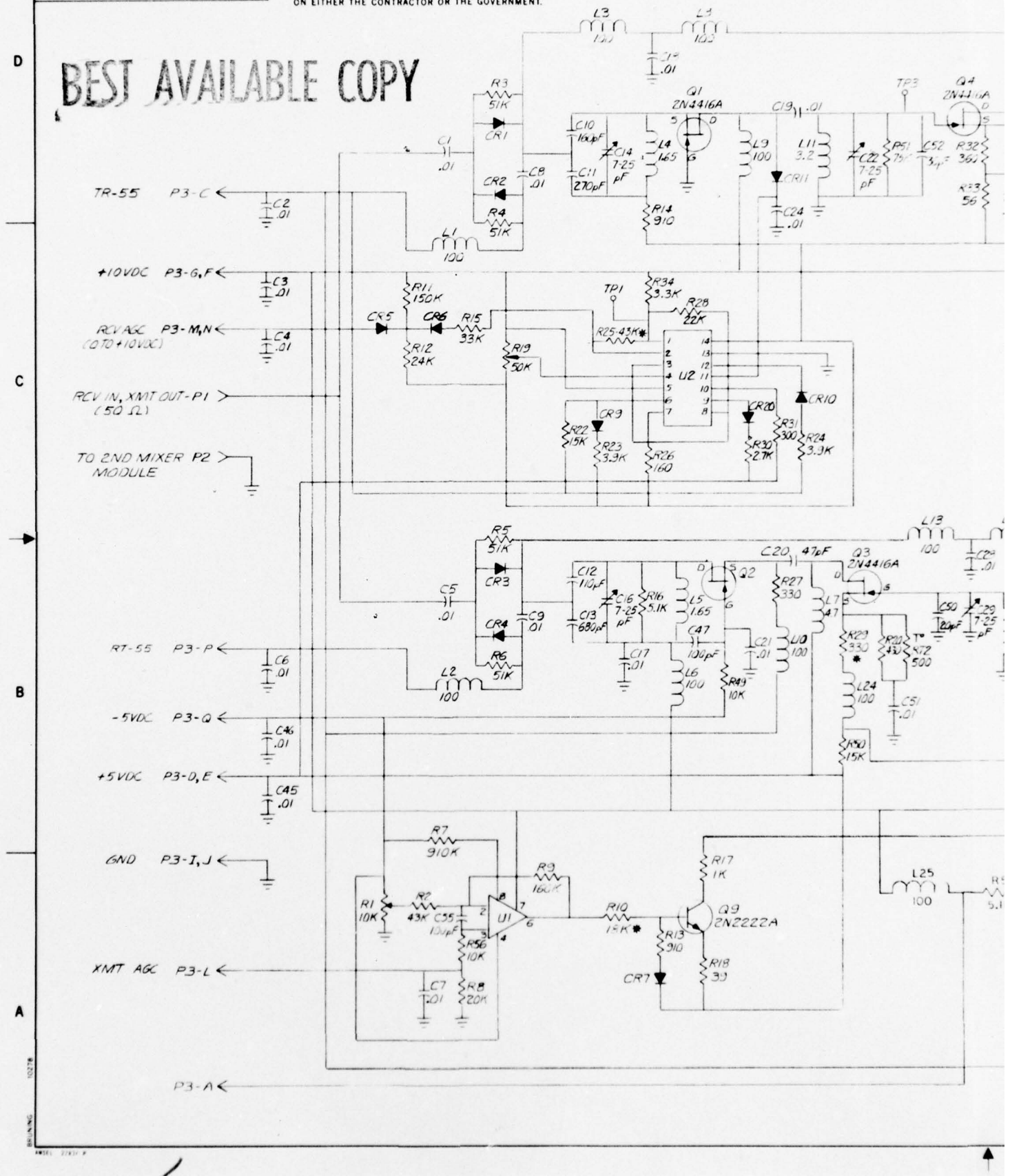
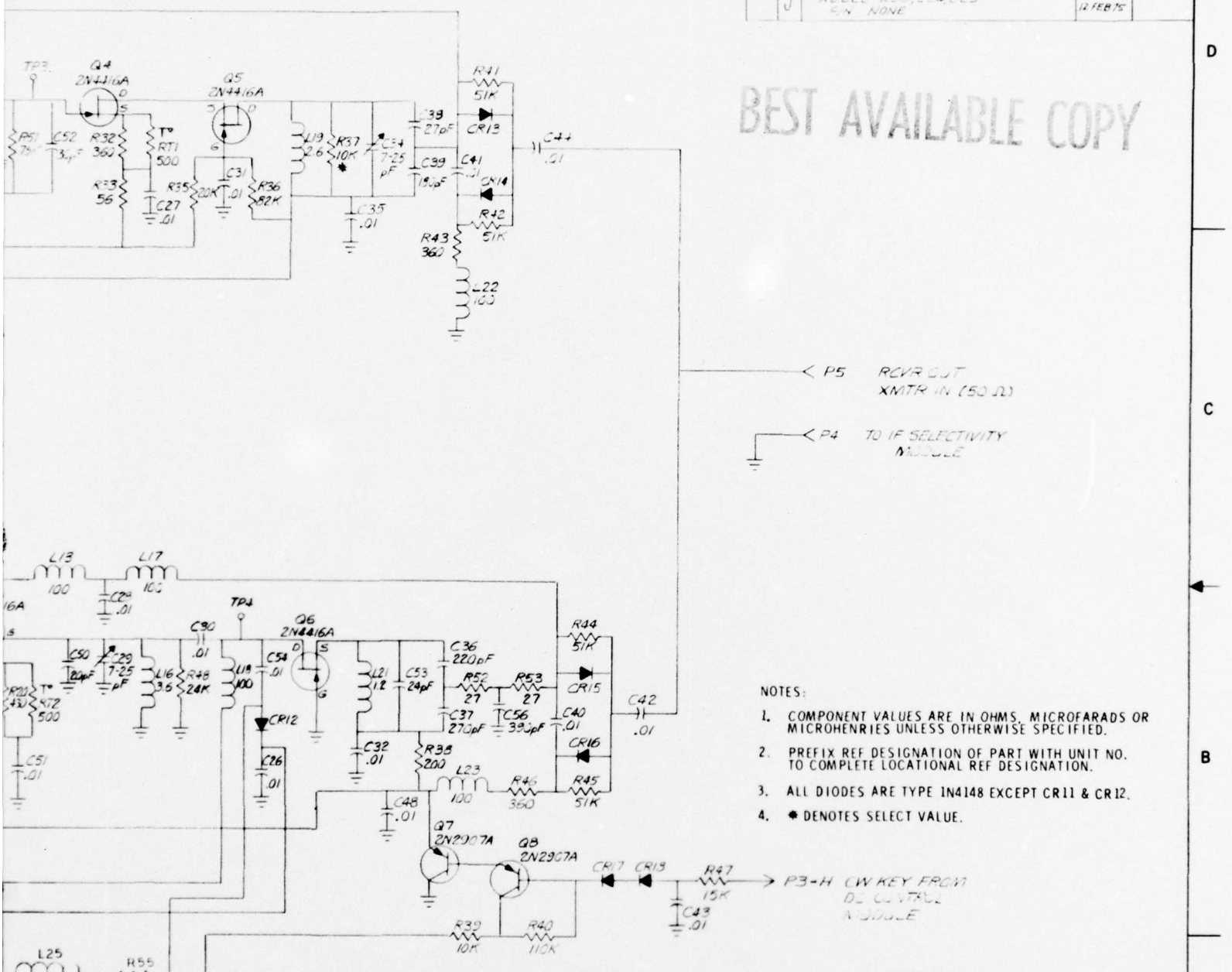


REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
	G	[illegible]	10 JAN 74	
	H	DELETED R55, C54, L25 SN F22	5 FEB 75	
	J	ADDED R55, C54, L25 SN NONE	12 FEB 75	



NOTES:

1. COMPONENT VALUES ARE IN OHMS, MICROFARADS OR MICROHENRIES UNLESS OTHERWISE SPECIFIED.
2. PREFIX REF DESIGNATION OF PART WITH UNIT NO. TO COMPLETE LOCATIONAL REF DESIGNATION.
3. ALL DIODES ARE TYPE 1N4148 EXCEPT CR11 & CR12.
4. * DENOTES SELECT VALUE.

UNIT NO. 1A1A17

FIND NO.	QTY REQD	CODE IDENT.	PART NO. OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	NOTE

PARTS LIST

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES ON:
FRACTIONS DECIMALS ANGLES

MATERIAL:

NEXT ASSY | USED ON
APPLICATION

80045
DAAB07-71-C-0319

ELECTRONICS COMMAND
REVIEWED
APPROVED
DATE 15 MAY

U. S. ARMY ELECTRONICS COMMAND
PROCUREMENT AND PRODUCTION DIRECTORATE
FORT MONMOUTH NEW JERSEY 07703

SCHEMATIC DIAGRAM
2ND IF MODULE

SIZE D | CODE IDENT NO. 80063 | SM-D-745968
SCALE NONE | SHEET

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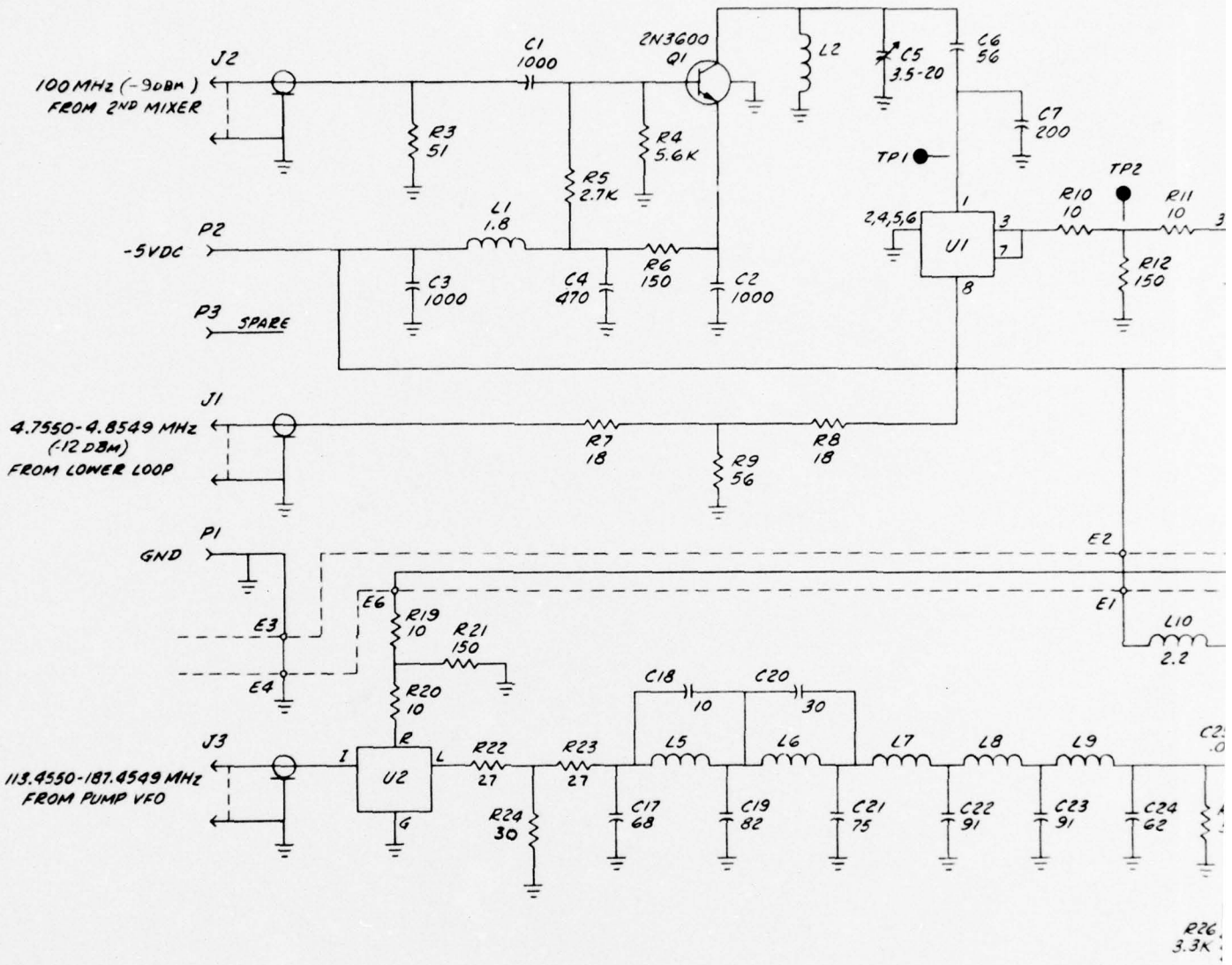
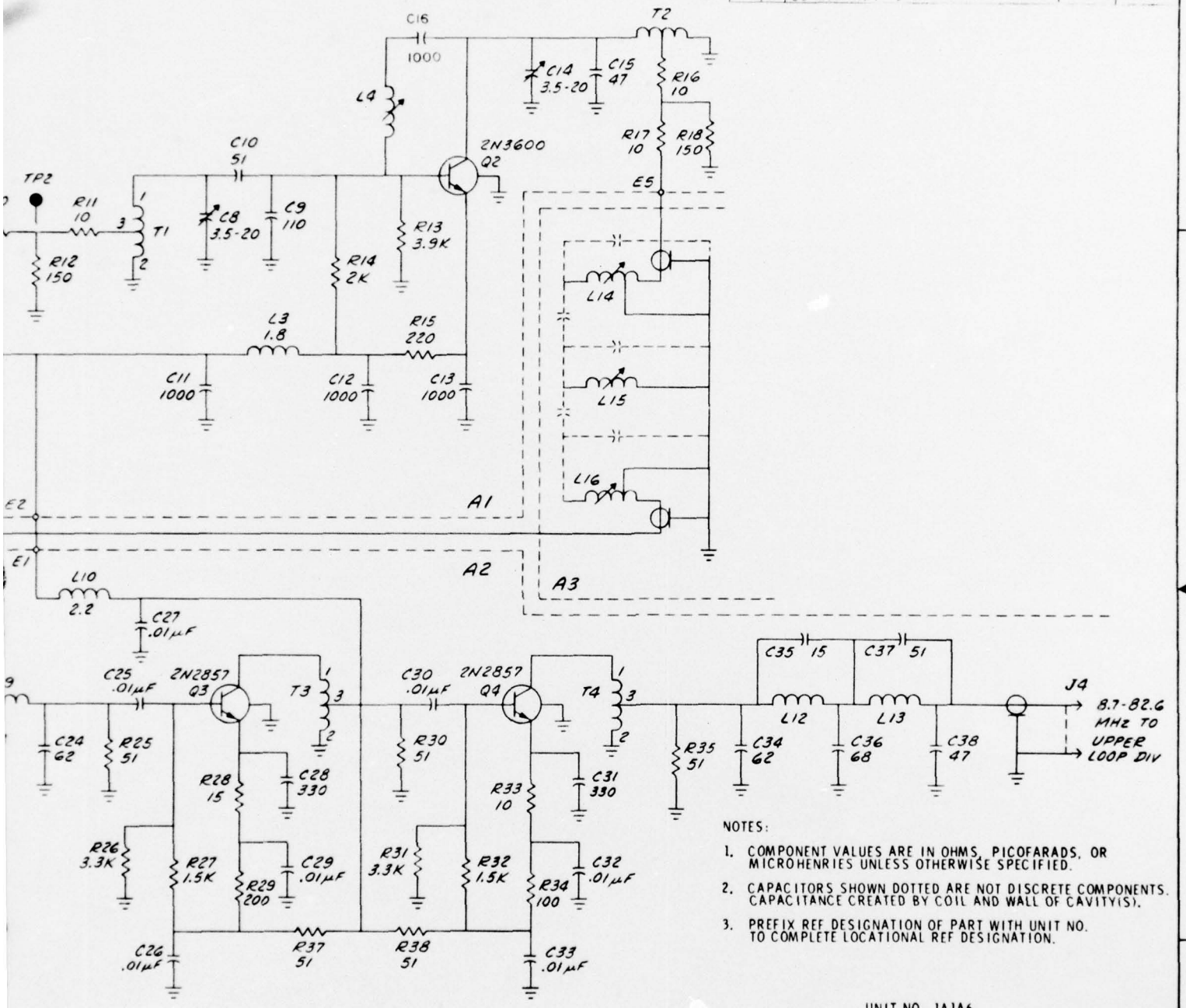


REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
–	B	REDRAWN; R1, R2 DELE; R3 WAS 6.8Ω	18 APR 74	
	C	J1 WAS (-7 DBM) ON NONE	10 SEPT 74	
	D	[illegible]	[illegible]	



NOTES:

1. COMPONENT VALUES ARE IN OHMS, PICOFARADS, OR MICROHENRIES UNLESS OTHERWISE SPECIFIED.
2. CAPACITORS SHOWN DOTTED ARE NOT DISCRETE COMPONENTS. CAPACITANCE CREATED BY COIL AND WALL OF CAVITY(S).
3. PREFIX REF DESIGNATION OF PART WITH UNIT NO. TO COMPLETE LOCATIONAL REF DESIGNATION.

UNIT NO. 1A1A6

FIND NO.	QTY REQD	CODE IDENT	PART NO. OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	NOTE

PARTS LIST

SM-D-745605	USM-B-746378
SM-D-745735	USM-B-746378
SM-D-745733	USM-B-746378
NEXT ASSY	USED ON
APPLICATION	

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES ON:
FRACTIONS — DECIMALS — ANGLES —

MATERIAL:

80045
DAAB07-71-C-0319

ELECTRONICS COMMAND

REVIEWED

APPROVED

DATE 10 APR 1973

U. S. ARMY ELECTRONICS COMMAND
PROCUREMENT AND PRODUCTION DIRECTORATE
FORT MONMOUTH NEW JERSEY 07703

SCHEMATIC DIAGRAM, TRANSLATOR

SIZE	CODE IDENT NO.	
D	80063	SM-D-745992

SCALE NONE SHEET

WHEN REFERRING TO THIS DRAWING STATE DRAWING NO., APPLICABLE ISSUE LETTER IF ANY, AND DATE

NOTE
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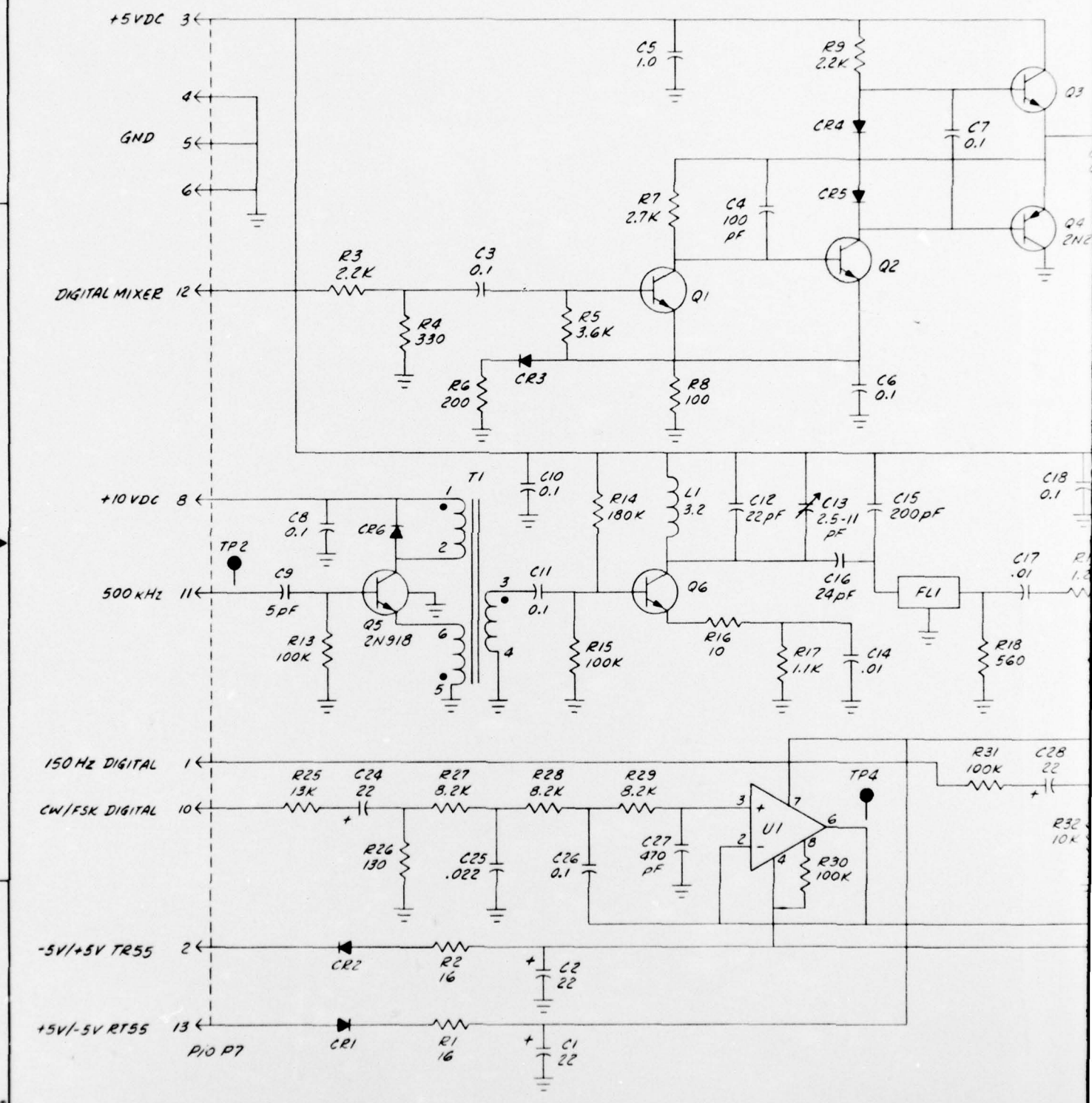
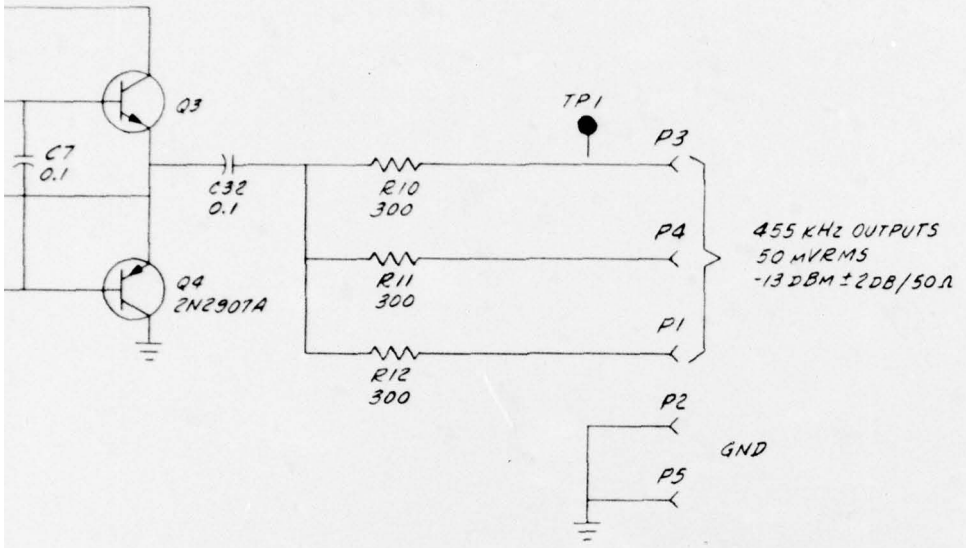
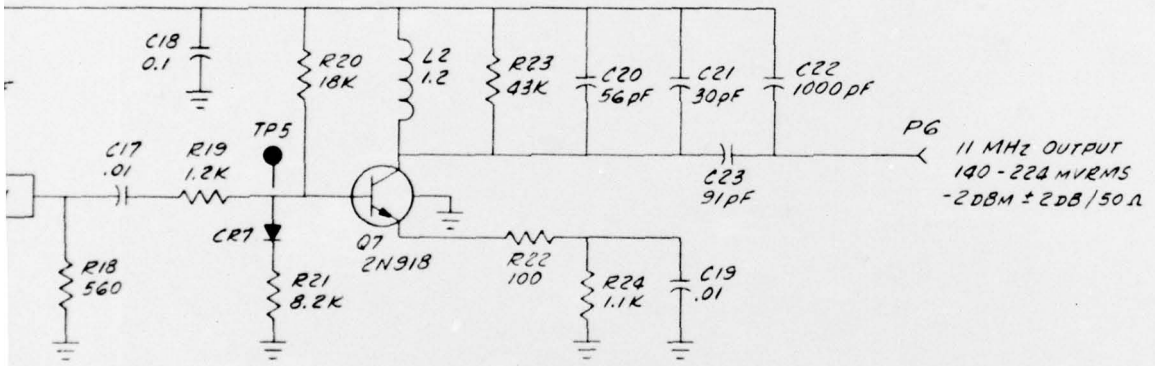


REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED

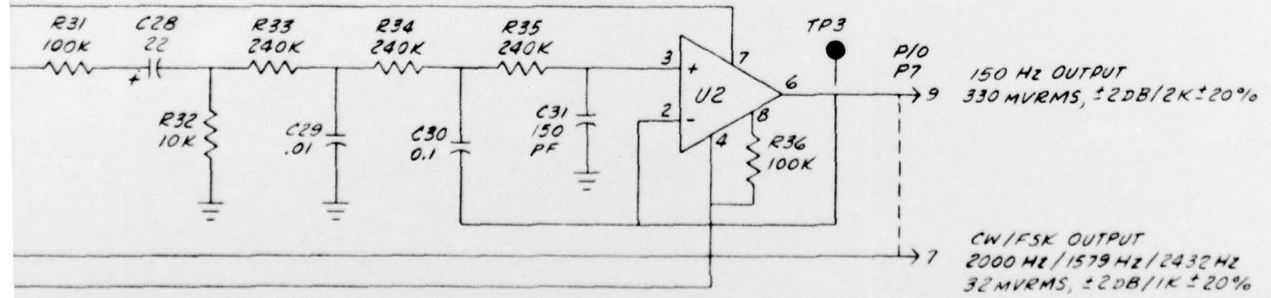


NOTES:

1. COMPONENT VALUES ARE IN OHMS, MICROFARADS, OR MICROHENRIES UNLESS OTHERWISE SPECIFIED.
2. PREFIX REF DESIGNATION OF PART WITH UNIT NO. TO COMPLETE LOCATIONAL REF DESIGNATION.
3. ALL TRANSISTORS ARE TYPE 2N2222A, ALL DIODES TYPE 1N4148 UNLESS OTHERWISE SPECIFIED.



UNIT NO. 1A1A10



FIND NO.	QTY REQD	CODE IDENT.	PART NO. OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	NOTE

PARTS LIST

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON:
FRACTIONS DECIMALS ANGLES
— — —

MATERIAL

NEXT ASSY	USED ON
SM-D-745603	DSM D 746377

APPLICATION

80045
DAAB07-71-C-0319

ELECTRONICS COMMAND

REVIEWED

APPROVED

DATE

U. S. ARMY ELECTRONICS COMMAND
PROCUREMENT AND PRODUCTION DIRECTORATE
FORT MONMOUTH NEW JERSEY 07703

SCHEMATIC DIAGRAM,
OSCILLATOR DISTRIBUTOR

SIZE	CODE IDENT NO.	
D	80063	SM-D-746260

SCALE NONE SHEET

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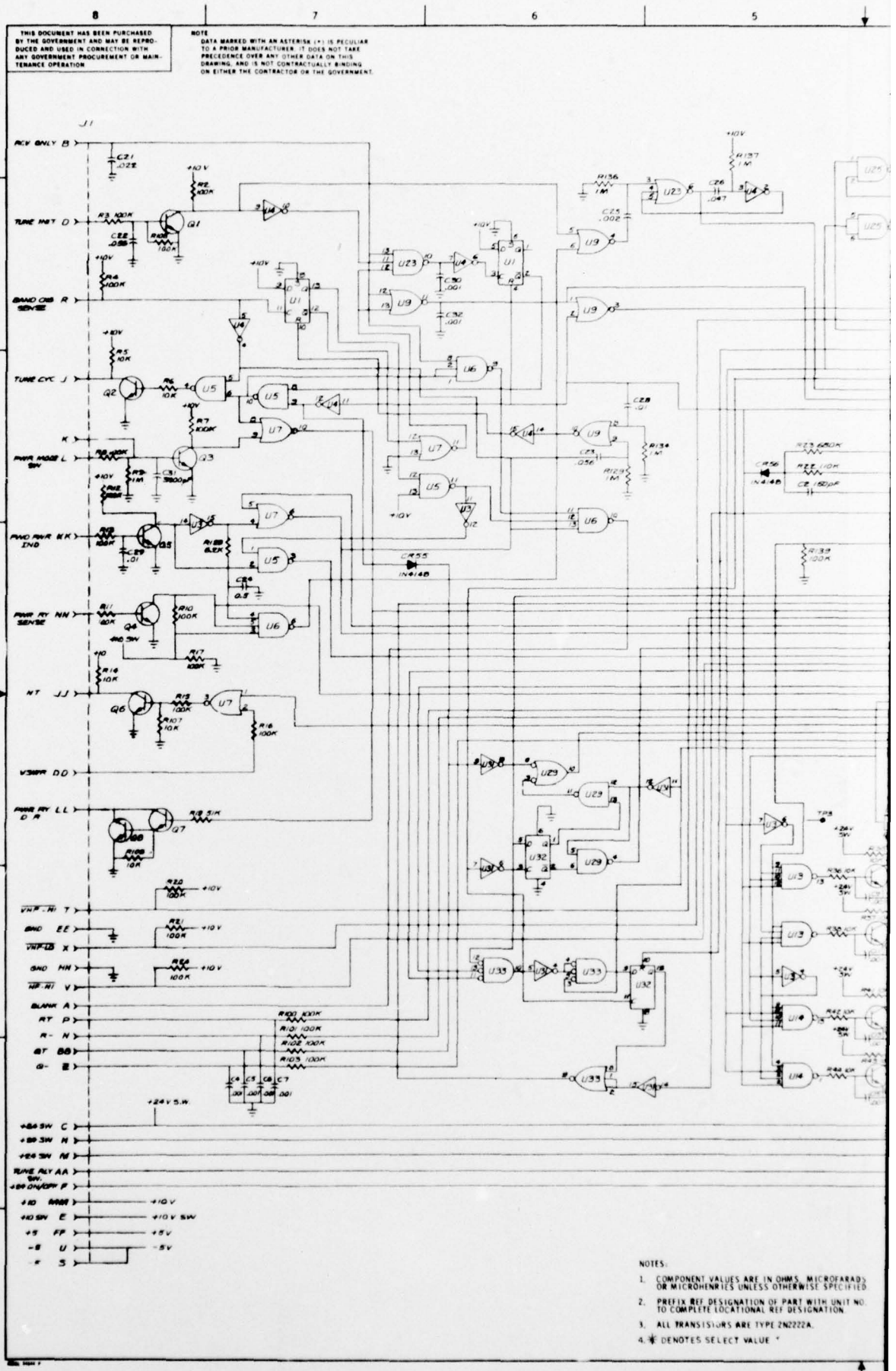
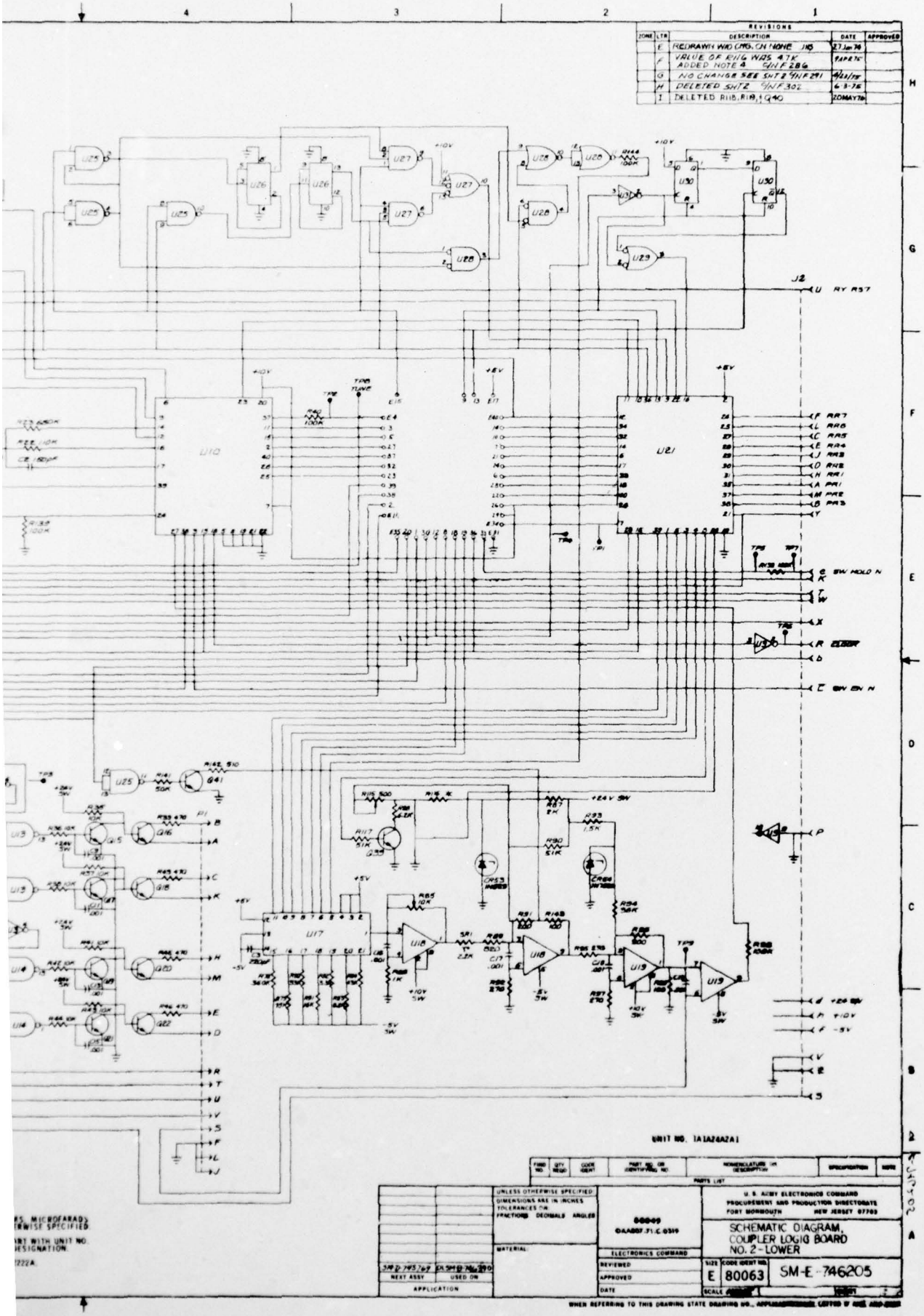


NOTES:

1. COMPONENT VALUES ARE IN OHMS, MICROFARADS OR MICROHENRIES UNLESS OTHERWISE SPECIFIED.
2. PREFIX REF DESIGNATION OF PART WITH UNIT NO. TO COMPLETE LOCATIONAL REF DESIGNATION.
3. ALL TRANSISTORS ARE TYPE 2N2222A.
4. * DENOTES SELECT VALUE *



REVISIONS			
ZONE	LTR	DESCRIPTION	DATE	APPROVED
	E	REDRAWN W/O CHG. ON 1 NONE JHS	27 Jan 76	
	F	VALUE OF R116 WAS 4.7K ADDED NOTE 4 SN/F 284	15 APR 76	
	G	NO CHANGE SEE SHT 2 SN/F 291	4/21/76	
	H	DELETED SHT 2 SN/F 302	6-3-76	
	I	DELETED R118, R119, Q40	20 MAY 76	

UNIT NO. 1A1A24A2A1

PARTS LIST

FIND NO.	QTY REQD	CODE IDENT	PART NO. OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	NOTE

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON
FRACTIONS DECIMALS ANGLES

MATERIAL

APPLICATION

NEXT ASSY | USED ON

88049
DAAB07-71-C-0319
ELECTRONICS COMMAND

REVIEWED
APPROVED
DATE

U. S. ARMY ELECTRONICS COMMAND
PROCUREMENT AND PRODUCTION DIRECTORATE
FORT MONMOUTH NEW JERSEY 07703

SCHEMATIC DIAGRAM,
COUPLER LOGIC BOARD
NO. 2 - LOWER

SIZE E | CODE IDENT NO. 80063 | SM-E-746205

SCALE | SHEET

WHEN REFERRING TO THIS DRAWING STATE DRAWING NO., APPLICABLE LETTER IF ANY, AND DASH

2054C

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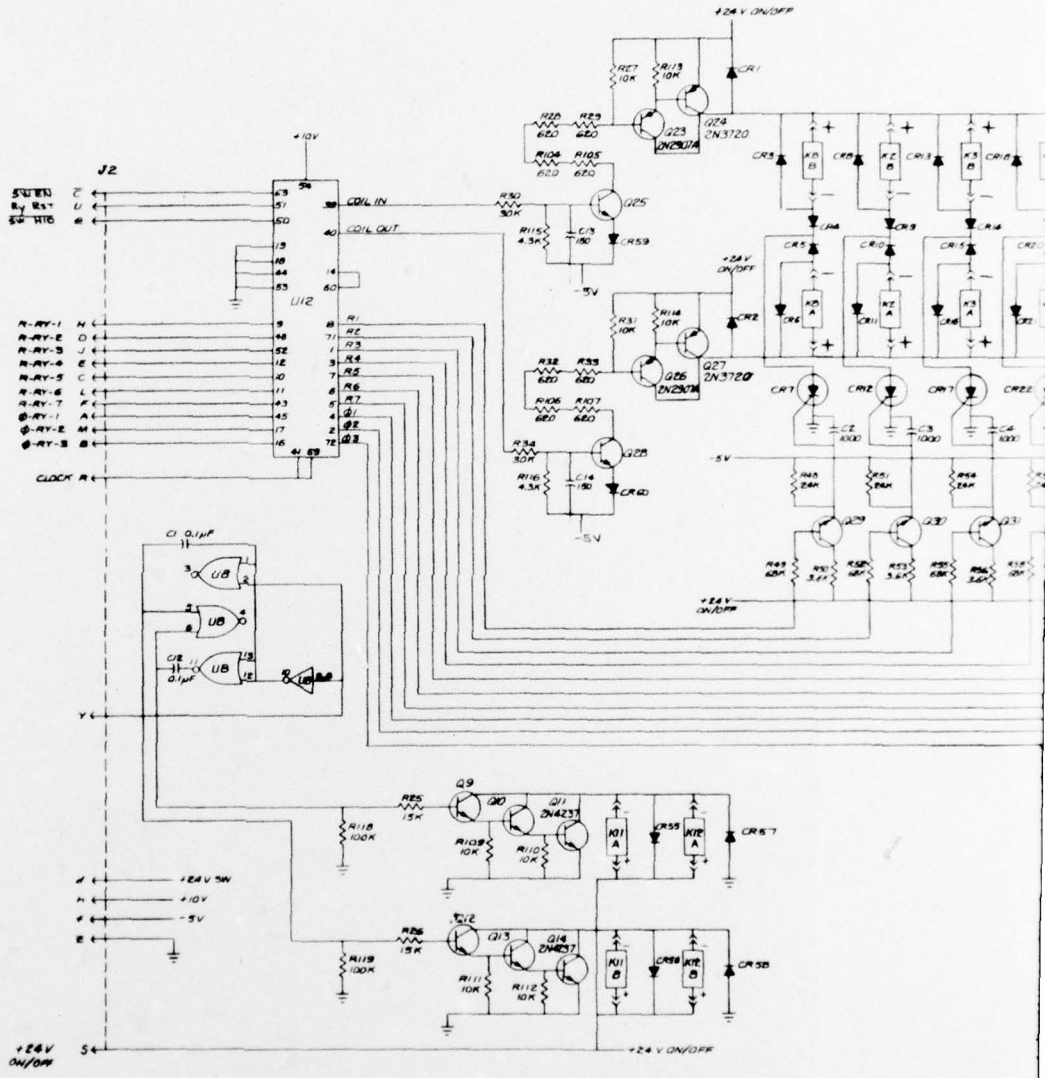
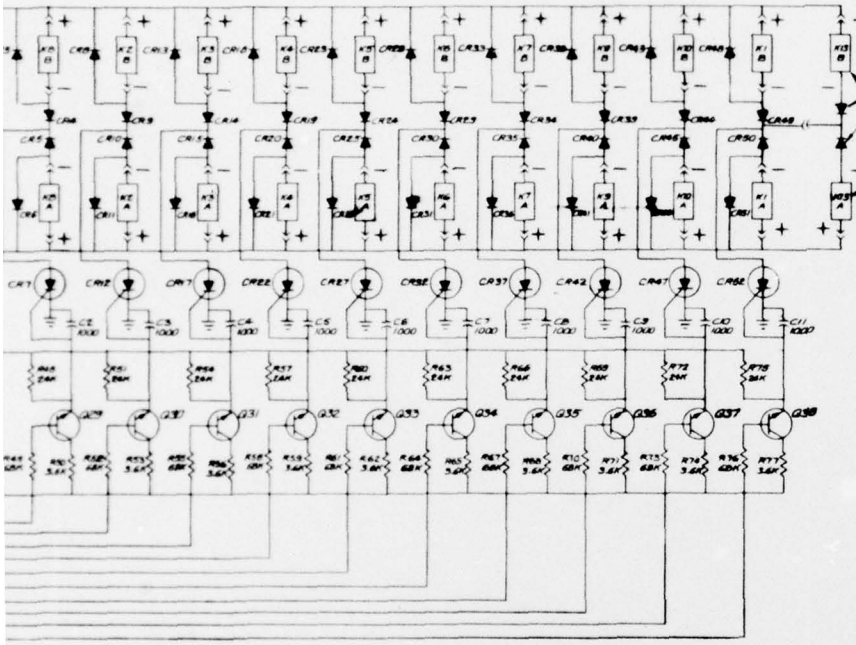


REVISIONS			
ZONE	LTR	DESCRIPTION	DATE / APPROVED
	C	REDRAWN W/O CHG ON PAGE	



NOTES:

1. COMPONENT VALUES ARE IN [illegible] OR MICROHENRIES UNLESS OTHERWISE SPECIFIED.
2. [illegible] TO CORRECT LOCATIONAL [illegible]
3. ALL TRANSISTORS ARE TYPE [illegible] ARE TYPE 2N5087, ALL TYPE [illegible] 2N5086 UNLESS OTHERWISE SPECIFIED.

UNIT NO. 1A1A24A2A2

FIND NO.	QTY REQD	CODE IDENT	PART NO. OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	NOTES

PARTS LIST

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ON: FRACTIONS ___ DECIMALS ___ ANGLES ___

MATERIAL:

NEXT ASSY	USED ON

APPLICATION

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U. S. ARMY ELECTRONICS COMMAND
PRODUCT DEVT AND PRODUCTION DIRECTORATE
FORT MONMOUTH, NEW JERSEY 07703

SCHEMATIC DIAGRAM
COUPLER LOGIC BOARD
NO. 1 - UPPER

SIZE	CODE IDENT NO.	SM-E-746001
E	80063	

SCALE NONE | SHEET 2 OF 2

WHEN REFERRING TO THIS DRAWING STATE DRAWING NO., [illegible]

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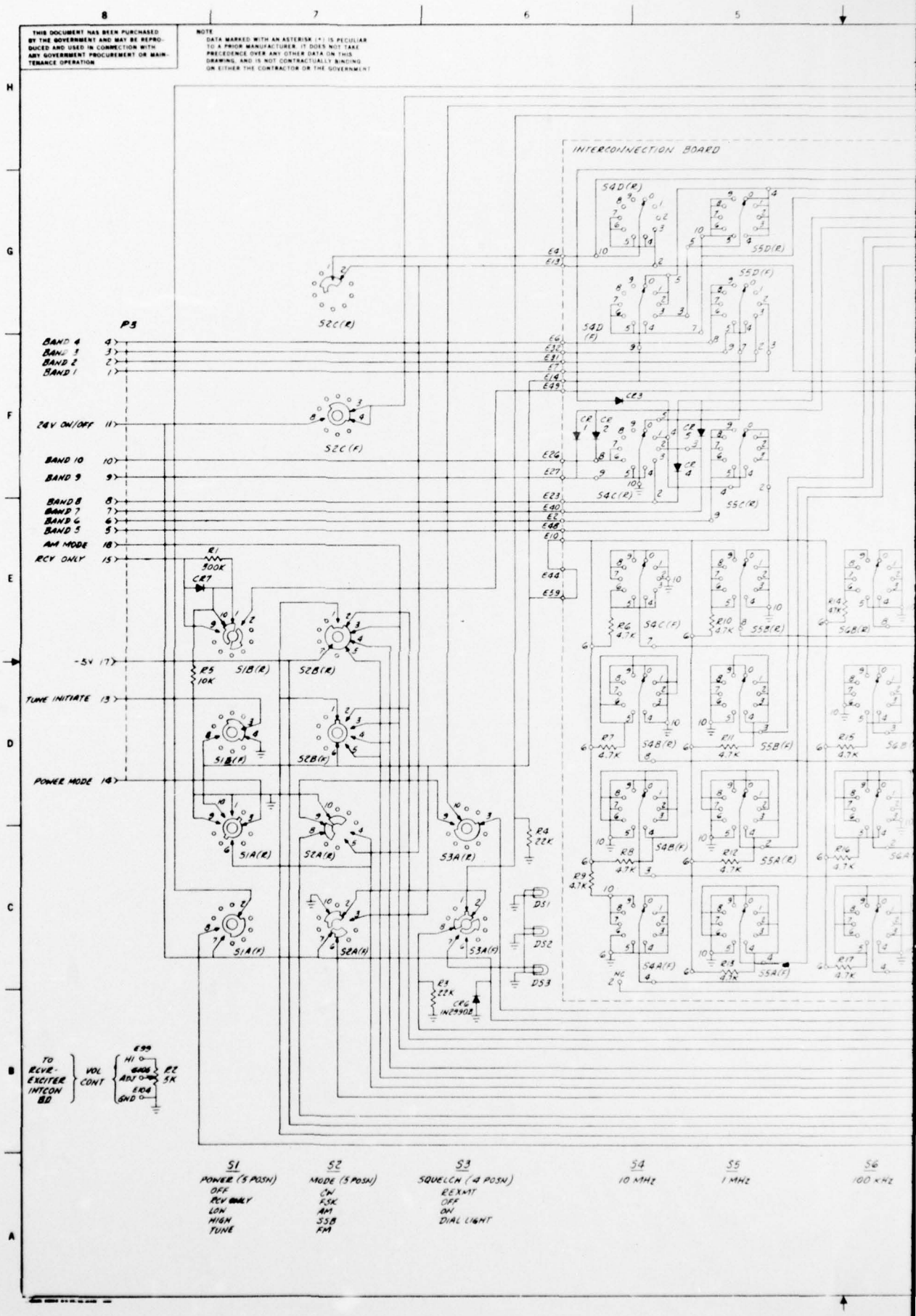

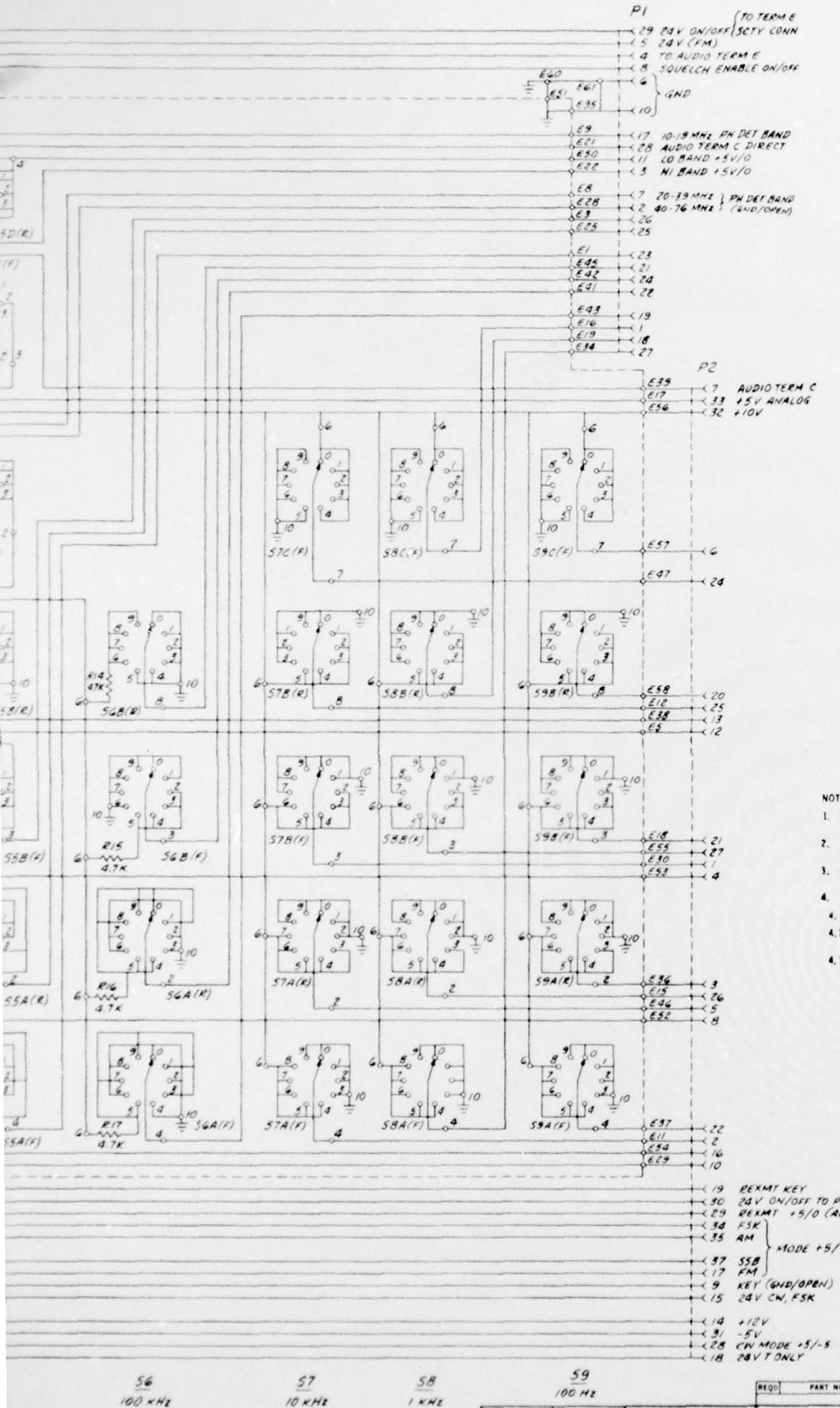

NOTES:

1. COMPONENT VALUES ARE IN OHMS, MICROFARADS, OR MICROHENRIES UNLESS OTHERWISE SPECIFIED.
2. PREFIX REF DESIGNATION OF PART WITH UNIT NO. TO COMPLETE LOCATIONAL REF DESIGNATION.
3. ALL DIODES ARE TYPE 1N4148 UNLESS OTHERWISE SPECIFIED.
4. SWITCHES:
   - 4.1 ALL SWITCHES BREAK BEFORE MAKE.
   - 4.2 POWER, MODE, AND SQUELCH SWITCHES SHOWN IN CCW POSITION.
   - 4.3 FREQUENCY SWITCHES SHOWN IN DIAL POSITION "0".

UNIT NO. 1A5A1

REQD	PART NO.	DESCRIPTION	SPECIFICATION	NOTE

LIST OF PARTS

U. S. ARMY ELECTRONICS COMMAND
PROCUREMENT AND PRODUCTION DIRECTORATE
FORT MONMOUTH NEW JERSEY 07703

SCHEMATIC DIAGRAM, FREQUENCY SELECTOR

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON: FRACTIONS DECIMALS ANGLES

MATERIAL:

80063
DAAB07-71-C-0319

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SCALE NONE SHEET

SM-D-748644 | NEXT ASSY | USED ON | APPLICATION

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